CATALOG NO. CAOO45
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# DETROIT DIESEL FOUR-CYCLE ENGINES

Replacement Parts Catalog

**GLOBAL TECHNOLOGY** behind every part





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## Global Technology Behind Every Part

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## **How To Use This Catalog**

### Global Technology Behind Every Part

The header for each block listed is designed to help you identify the correct engine application. Special information regarding a specific part is located to the far right of the part number listing. If available, ENGINE KIT listings are located at the beginning of the engine listing.

#### Engine components are grouped in the following order:

- 1st. Cylinder Head and Parts
- 2nd. Intake and Exhaust Manifolds
- 3rd. Camshaft Group
- 4th. Fuel System and Parts
- 5th. Cooling System
- 6th. Engine Block and Parts
- 7th. Crankshaft/Oil Pump and Related Parts
- 8th. Cylinder Components (incl. Rod Bearings, Cylinder Sleeves, Pistons, Piston Rings)

#### This catalog is sorted as follows:

- 1st. By ENGINE DISPLACEMENT
- 2nd. By BORE DIAMETER. Engines with the same displacement are sorted by bore diameter.
- 3rd. By USAGE. Engines used in Medium Duty Truck applications will be listed before engines used in Heavy Duty Truck applications.
- 4th. By INDUCTION SYSTEM. Naturally aspirated-engines will be listed before Turbocharged engines.

### **General Information**

This catalog is designed to identify the major components, assemblies and kits used in the Detroit Diesel four cycle family of engines including Series 40, 50, 60 and 8.2L naturally aspirated and turbo charged versions.

The catalog includes all of the parts and kits available from FP Diesel for Detroit Diesel four-cycle engines.

The catalog is organized by engine model. Each section is subdivided into groups that coincide with the various engine assemblies and components.

FP Diesel uses a part numbering system similar to Detroit Diesel's OEM number. In most instances, the FP Diesel part number is the same except that the suffix, or prefix of the Detroit Diesel number is omitted (when it serves no applicable purpose). For example:

#### Detroit Diesel Part Number 8929690 FP Diesel Part Number FP-8929690

All manufacturers numbers, names, symbols and descriptions are used for reference purposes only. It is not implied that any part listed is the product of any specific manufacturer.

All information contained in this catalog is based on the latest data available at the time of printing. Although care has been taken to ensure the accuracy of the data compiled in this catalog, Federal-Mogul does not assume liability for errors or omissions.

#### **IMPORTANT NOTICE**

This catalog does not replace the Detroit Diesel parts catalogs or service materials. If in doubt, reference your Detroit Diesel OEM publications.





## **FP Diesel Philosophy**

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FP Diesel – part of the Federal-Mogul Engine Systems group – is the industry's leading brand of premium heavy-duty replacement engine parts and gaskets, providing total engine system solutions for such well-known brands as Case, Caterpillar, Cummins, Detroit Diesel, International, John Deere, Komatsu, Mack, Waukesha and White Superior.

Federal-Mogul maintains a steadfast commitment to unsurpassed product quality and customer service. We serve construction, marine, agricultural, mining, gas compression, trucking and industrial markets around the globe. As the global leader in heavy-duty powertrain systems, Federal-Mogul is instrumental in the development of every new generation of gasoline and diesel engine technology. When you choose FP Diesel, you get unparalleled global engineering and manufacturing resources built into every product.

Today's heavy duty market demands performance. Performance means precision-engineered parts that meet your demanding specifications; and are backed by a team of knowledgeable customer service representatives who can provide technical information and assistance; computerized order and inventory tracking for fast and accurate order fill; unprecedented warranty programs and a company-wide commitment to customer satisfaction.









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## **Manufacturing**

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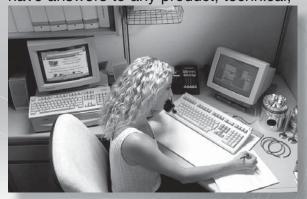
Precise manufacturing and fabricating techniques, rigorous quality control procedures, utilization of the latest CAD technology and innovative solutions to industry challenges – coupled with Federal-Mogul's global manufacturing capabilities – have established FP Diesel as the industry leader in the heavy duty market.

FP Diesel applies stringent quality control procedures with expertly skilled technicians supervising the manufacturing process in all phases to ensure that our parts will perform and last.

FP Diesel is a military approved supplier for the 53 Series Detroit Diesel engine. But the parts we supply for the 53 aren't the only ones that go through government testing. Every FP Diesel part must pass through high-level quality control. Plus, every part is tracked throughout the entire distribution process.

### **Customer service**

FP Diesel customer service representatives are among the most experienced and knowledgeable in the industry, with hands-on heavy-duty experience and in-depth knowledge of engine parts and applications. With one call to your representative you'll have answers to any product, technical,



order processing, billing, warranty, pricing, order tracking or availability questions you may have. Customer service that goes the extra mile also means you not only get the parts you need, but expert assistance from a person who knows the heavy duty market.

Plus, our computerized inventory system allows us to ship your order promptly anywhere in the world, while our easy-to-use cataloging system makes ordering FP Diesel parts fast and simple. For the parts and information you need, count on FP Diesel to go the extra mile.





Coverage

#### Global Technology Behind Every Part

The FP Diesel product offering is a comprehensive line of diesel and natural gas engine replacement parts that provides all the coverage necessary to meet your heavy-duty engine rebuilding needs. FP Diesel also offers a full line of gaskets and elastomeric products. For more specific information, please refer to our full-line catalogs, which are engine and machine specific and follow OEM format. To ensure exact part number replacement, these catalogs reference OEM part numbers and features technical information relating to



#### Products

#### Caterpillar

Replacement Caterpillar products cover 3200, 3300, 3400, 3500, D Series and G Series engines. This coverage extends from cylinder heads, fuel injection, cam and crankshafts, cylinder kits, valvetrain and eletrical to engine bearings, transmission, hydraulic gasket sets and more. Refer to FP Diesel catalog No. CA0010 (parts) and CA0020 (gaskets).

#### **Cummins**

FP Diesel provides replacement parts coverage for V378, V504, V555, Small Vee Engines, V/VT 903, 855 Series, N14, L10, B Series, C Series, V/VT1710, N743 and K/KTA 18-, 38- and 50-liter engines, as well as components for Jacobs® brakes. Refer to FP Diesel catalog No. CA0030.

#### **Detroit Diesel**

FP Diesel offers the most complete coverage in the replacement parts industry for Detroit Diesel, with an extensive line of components and kits for the 8.2-liter, 53 Series, 60 Series, 71 Series, 92 Series and 149 Series engines. Refer to FP Diesel catalog No. CA0040 for 2-cycle engines or FP Diesel catalog No. CA0045 for 4-cycle engines.

#### John Deere

FP Diesel offers a broad range of in-frame and complete overhaul kits and related components for 300 Series, 400 Series, 500 Series and Powertech engines is available from FP Diesel. Refer to FP Diesel catalog No. CA0085.

#### Komatsu

Extensive coverage for Komatsu S6D 155 and SA6D155 engines, as well as a full line of replacement parts for Komatsu machines using Cummins N743, KT/KTA 19-, 38- and 50-liter engines, and the Cummins 855. Refer to FP Diesel catalog No. CA0085.

FP Diesel has a broad line for Mack, early ENDT 675 and 676 engines, as well as parts for later EM6 with both two- and four-valve head configurations. Refer to FP Diesel catalog No. CA0060

#### International

International coverage extends from the 6.9 and 7.3 liter, DT-360 and DT-466 through the 9.0 liter engine. Refer to FP Diesel catalog No. CA0050. For agricultural applications, FP Diesel also services the DT-414 and DT-436 Case/I.H. engines. For industrial and agricultural applications, refer to FP Diesel catalog No. SP188.

FP Diesel has a complete range of kits and components for the 188, 207, 301, 366, 451 and 504-Case engines along with the 4-390 & 4T-390, 6-590 & 6T-590, 6T-830 & 6TA-830, LTA 10 and NTA 855 B/C III Cummins engines. Refer to FP Diesel catalog No. CA0095.

#### Commercial, Ag, Industrial Engines

The FP Diesel SP188 catalog contains all the engine manufacturers that are not covered in the other FP Diesel name-plate specific catalogs listed. These engine manufacturers include Allis-Chalmers, Bedford, Bendix-Westinghouse, Briggs & Stratton, Buda, Case Tractor, Chevrolet MD Truck, Climax, Continental, Dodge MD Truck, Ford Tractor, GMC MD Truck, Hercules, IHC Tractor, Isuzu Forklift, KHD, Kohler, LeRoi, Massey Ferguson, Mercedes, Mazda Forklift, Minneapolis-Moline, Mitsubishi, Novo, Oliver, Perkins, Superior, Thermo-King, Volvo, Waukesha, White and Wisconsin. All of the replacement engine components offered for each of these manufacturers is included in this catalog.





The FP Diesel Engine Kit program allows you to select a kit tailored to the job at hand. Whether performing a complete overhaul, or in-frame repair, our engine kits contain all the necessary components to complete the rebuild job. This comprehensive program provides you with the following:

- Concise application information
- One price look-up
- A full complement of oversizes and undersizes
- · Master kits that include full gasket sets

Engine kits are listed at the back of this catalog and under the In-Frame and Overhaul specific sections.

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## **How To Specify FP Diesel Engine Kits**

Many FP Diesel engine kits have several variations in components that are available depending on the specific engine. Overhaul Kits are designed to contain all the parts necessary to rebuild a particular engine. To assure that the kit is correct and complete, all that is necessary is for you to supply the engine information located on the Data Plate on the side of the engine block. In some cases the block casting number and the connecting rod number are also required. This information enables your FP Diesel service representative to configure the Engine Kit to your particular requirements insuring that everything is properly accounted for. In cases where there are no variable components, we have pre-configured the kits to include all the necessary parts for that application.



## **Engine Bearings**

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## **Engine Bearing Material Selection**

When selecting engine bearings, most rebuilders concentrate on getting the proper clearances and maintaining adequate oil pressure. Durability is expected from any bearing chosen, and the advantages of different bearing materials may not be considered. If engine operating conditions are considered and bearing materials chosen accordingly, the likelihood of engine longevity is greater. No single material can be correct for every application. FP Diesel engine bearings are equal to or better than the

original equipment specifications for material and design. We also provide alternatives to address unique problems and special needs.

In heavy duty applications there are a number of materials that will do an excellent job. Each alloy has advantages in terms of resistance to corrosion, rate of wear and fatigue strength. The latter characteristic is critical in engines that operate under high loads, generate considerable heat and may be subjected to occasional detonation.

## Bi-Metal Aluminum Alloys - Plated and Unplated

Diesel fuels, moisture, and engine "blow-by" introduce many contaminants into the crankcase. Aluminum engine bearing materials provide outstanding resistance to the corrosive effects of these substances, and are the product of choice for most current original equipment vehicle manufacturers. The modern bi-metal aluminum engine bearing contains silicon. As a result of using silicon, the alloy resists seizure and dramatically

reduces or eliminates bearing wear. This contributes to today's extended engine life. Aluminum is often the best material for a daily driven vehicle. Adding an overplate to an aluminum engine bearing will further enhance embedability and conformability. Continued efforts to remove lead from our environment guarantee that aluminum will become the preferred engine bearing material for most applications.





## **Engine Bearings**

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## **Tri-Metal Alloys**

Tri-Metal engine bearings, such as our H-14 and H-24 alloys, have excellent fatigue resistance, but are less resistant to corrosion damage than aluminum bearings. These bearing materials are accepted by engine builders worldwide, and are proven to be reliable in a wide range of uses. While OE manufacturers are moving to aluminum for their needs, many rebuilders still specify the tri-metal bearings for older engines.

## **Typical Commercial Engine**

Maximum Peak Load (PSI)

Overplated Tri-Metal (H 24)

**Super Duty Tri-Metal (H 14)** 

#### PLASTIGAGE

Sealed Power PLASTIGAGE® for High Performance Precision



and Connecting Rod Bearing Clearances.
Federal-Mogul offers Sealed Power Plastigage. It ends the guessing game when measuring clearances of main and connecting rod bearings. Specially formulated and oil soluble, Plastigage strips flatten precisely for accurate reading. Plastigage strips are available in four size ranges, packaged 12 to a carton, (enough to do 12 engines). Part number SPG-1 cartons contain strips in the .001-.003 inch range. Part number SPR-1 cartons hold strips in the .002-.006 inch range. SPB-1 cartons include strips in the .004-.009 inch range. SPY-1 cartons contain strips in the .009-.020 inch range. This complete range of sizes will fit every heavy duty engine.

A Quick and Accurate Method for Measuring Main

SPG-1 .001-.003 in.

SPR-1 .002-.006 in.

SPB-1 .004-.009 in.

SPY-1 .009-.020 in.

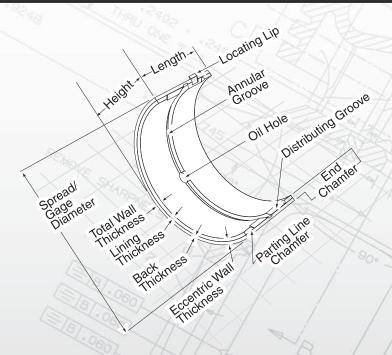




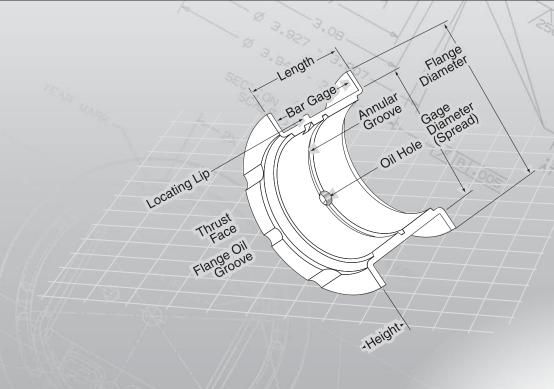
# **Engine Bearings**

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## **Rod and Main Bearing**



# **Thrust Bearing**







FP Diesel heavy duty pistons are designed and produced for severe operating conditions. Federal-Mogul is one of the world's leading manufacturers of heavy duty pistons offering one and two-piece designs including aluminum articulated, cast iron and steel materials. For severe and high load applications, FP Diesel pistons include a metallurgically bonded NI-resist insert in the top and in some cases, the second ring groove. The NI-resist insert minimizes groove wear and reduces pound-out from the compression ring. Anodized heads and graphite-coated skirts offer additional durability in severe applications. Federal-Mogul also utilizes an in-house, patented magnesiumphosphate coating to reduce the piston

corrosion caused by high-sulfate diesel fuels and break-in wear on problematic applications.

We design our heavy duty pistons using the latest in computer aided design (CAD) software. Each application is thoroughly researched to ensure the proper dimensional and metallurgical requirements. And since we also design and manufacture cylinder liners and piston rings, our engineers can make sure each piston we develop provides optimum performance as part of the "power-cylinder" system.





## **Sleeves and Assemblies**

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Cylinder sleeves are produced by Federal-Mogul in a QS9000 registered facility complete with casting, induction hardening, machining, measurement and design capabilties. We start with raw castings produced on a state-of-theart molding line specifically designed for the manufacture of static cast cylinder liners. The static castings produced by our foundry have a very consistent microstructure and superior scuffing resistance.

Certain applications are induction hardened or thru-hardened to enhance the wear characteristics and strength of the liner. Hardened liners are typically used in engines highly susceptible to dirt contamination, such as construction or agricultural applications.

Machining is performed on modern CNC equipment to ensure dimensional stability and exacting tolerances. Cylinder liners are typically finish honed to generate a plateau finish. The plateau finish promotes rapid ring seating

during break-in while providing a long-wearing sealing surface.

FP Diesel offers sleeves for wet, dry and repair applications. Sleeve assemblies or kits include the sleeve, piston, piston pin and lock rings, piston rings and sealing rings.





# **Abbreviations Used**

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	DESCRIPTION
&	And
2WD	
4WD	
A.I.R	
A/C	Air Conditioning
A/R	
A/T	Automatic Transmission
ABS	
AC	
Acc	
Adj	
Adv	
Aft	
Alt.	
Alum	
Amp	Ampere
AOD	
Appl	Application
Approx.	
Asst	Assist
Assy	Assembly
ATV	
Auto	Automatic
Auto. Trans	Automatic Transmission
Aux	
Avail	Available
Avg	Average
AWD	All Wheel Drive
Bal	Balance
Batt	
Bbl	
Bbl. Carb	Barrel Carburetor
Bef	Before
Brg	
Brkt	Bracket
C	
C.I	
C.R	
C/L	
Calib.	Calibration
Calif.	
Can	
	Catalytic
00	Cubic Centimeter
	Counter Clockwise
	Counter Clockwise
CEE!	Compression distance
	Central Fuel Injection
CID	
	Cubic Inch (Displacement)
	Cooled
	Cooling
	Cooler
cm	Centimeter

ABBREVIATION	DESCRIPTION
Cntr. Bore	
Compl	
Con. Rod	
Cruise	
Ctr	
CW	
Cyl	Cylinder
Cyl. Hd	Cylinder Head
DC	Direct Current
Deg	
DFI	Digital Fuel Injection
DI	Direct Injection
Dia	Diameter
Dim	Dimension
Dir. Inj	Direct Injection
Disc	Discontinued
Dist	Distributor
DOHC	Dual Overhead Camshaft
Dr	
E.E.C	Electronic Engine Control
E.I.S	Electronic Linguis Cyctom
E.I.S	Electronic ignition system
Ea	acii
Ecc	Eccentric
ECM	
ECM	Electronic Control Module
ECM	Engine Control Module
Econ	Economy
ECS	Electronic Controlled Spark
EFP	Electronic Fuel Injection
Elec	
Emis.	Fmission
Eng.	Engino
Equip	Fautisment
Equip	Equipment
Etc	El Celera
Exc	
Exh	
Exp	Export
Ext.	Exterior
Ext	External
F	
Fed	Federal
FI	Fuel Injection
Flex.	
Flg	Flange
Flwr.	
FIWI	Follower
Frg	
Frt	
FWD	
Gal	
Gas	
GPH	Gallons Per Hour
GPM	
Grv(s)	
Gskt	Gaskot
GVW	Gross Vohiolo Weight
H/D	
Hd	Head
HEI	
Hi	High





# **Abbreviations Used**

## Global Technology Behind Every Part

ABBREVIATION DESCRIPTION	
Hi AltHigh Altitude	
ni Aitnigri Aititude	
Hi-Perf High Performance	
Hi-TempHigh Temperature	
HOHigh Output	
HorizHorizontal	
HPHorsepower	
HSCHigh Swirl Combustion	
Hyd	
I/CIntercooler	
I.DIdentification	
IDInside Diameter	
IDI	
iDIIndirect injection	
In. FrmIn Frame	
inInch	
InclIncludes	
IndIndustrial	
InjInjection	
IntIntake	
Inter	
LLiter	
L.HLeft Hand	7
L/DLight Duty	
LgthLength	
Lgui Lengui	
LPGLiquid Propane Gas	
M/DMedium Duty	
M/T Manual Transmission	
Man Manual	
Ivian	
Man. Trans Manual Transmission	
MaxMaximum	
MechMechanical	
MFI	
MinMinimum	
mmMillimeters	
MPH Miles Per Hour	
Mtl	
N/A Not Available	
N/RNot Required	
NatNatural	
Not Ass Notice and Not	
Nat. AspNaturally Aspirated	
NegNegative	
NeutNeutral	
NoNumber	
NomNominal	
NormNormal	
O.A.LOverall Length	
O.EOriginal Equipment	
O/DOverdrive	
O/SOversize	
ObsObsolete	
OD Outside Diameter	
ODOutside Diameter	
OEMOriginal Equipment Manufacturer	
OHCOverhead Cam	
OHVOverhead Valve	
OptOptional	
OrigOriginal	
ozOunce	
P. T.O. Power Take Off	
P/SPower Steering	
PassPassenger	

ABBREVIATION	DESCRIPTION
Pc(s).	Piece(s)
PCV	Positive Crankcase Ventilation
Perf	Performance
Pka	Package
Pos	Positive
Priem	Premium
POI	PrimaryPound Per Square Inch
Pwr	Power
Qtr	Quarter
Qty	Quantity
R.B.P	Ring Below Pin
R.H	Right Hand
	Reference
	Regular
	Remanufactured
Reg'd	Required
Rev	Revision
Rev. Rot	Reverse Rotation
Blr 90°	Roller
RMB	Rear Main Bearing
Rot	Rotatiovn
DDM	Revolutions Per Minute
	Rear
DWD	Rear Wheel Drive
C/C	Supercharged
5/U	Supercharged
Seal. Rings	Sealing Rings
Ser	Serial or Series
Ser. No	Serial Number
SFI	Sequential Fuel Injection
Slv	Śleeve
SOHC	Single Overhead Cam
Spd	Speed
Spec	Special
	Station
Std	Standard
Sys	System
T/C	Turbocharged
Tach	Tachometer
TBI	Throttle Body Injection
	Temperature
TPI	Tuned Port Injection
	Transmission
Trk.	
	Torque-to-Yield
	Turbocharged
	Under Size
ven	Vehicle Vehicle Identification Number
VIIV	verticle identification Number
VIV	Valve
	Valve Stem Seal
	With
	Without
	Station Wagon
	Weight





The products listed in this catalog are warranted to be free from defects in material and workmanship, under normal use and service, for two years from date of installation in an engine, without mileage or hour qualification in accordance with the following limited warranty. This warranty is the sole and exclusive warranty for failure of the above parts. This exclusive remedy shall not be deemed to have failed of its essential purpose so long as Federal-Mogul is willing and able to provide the remedy provided below.

#### WARRANTY LIMITATIONS

Federal-Mogul agrees to only pay for parts and labor needed to repair engine damages that result from the defined warranty failure. The costs are limited to parts and labor necessary for restoring the engine to its condition immediately prior to the failure. Labor costs are determined by current published rates and standards in the geographic area in which repairs are performed. Overtime or holiday rate charges are not allowed. We will also pay for maintenance products such as oil, antifreeze, belts, hoses and filter elements that are damaged because of a defined warranty failure.

Federal-Mogul is not responsible for engine failure resulting from owner, operator or third party neglect or abuse, improper installation or repair procedures, alteration or misapplication of parts, failure to properly service or maintain the engine and vehicle in accordance with applicable OEM operation and maintenance manuals or use in engine modified for competition purposes or used in competition.

OTHER THAN AS EXPRESSLY PROVIDED HEREBY, FEDERAL-MOGUL SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, DAMAGE OR LOSS OF OTHER PROPERTY OR EQUIPMENT, LOSS OF PROFITS OR REVENUE, TRANSPORTATION AND TOWING COSTS, COST OF PURCHASED OR REPLACED GOOD, OR CLAIMS OF CUSTOMERS OF THE PURCHASER, WHICH MAY ARISE OR RESULT FROM THE SALE, INSTALLATION, OR USE OF THESE PARTS. Some jurisdictions do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the limitations or exclusions contained herein may or may not apply to you. This warranty gives you specific legal rights. You may also have other rights depending on the state or province in which you reside.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS AND/OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE AND THEY ARE EXCLUDED TO THE EXTENT THEY EXCEED THE WARRANTY COVERAGE DESCRIBED BY THIS WARRANTY.

This warranty and remedy apply to new FP Diesel engine parts from Federal-Mogul sold directly to our authorized aftermarket customers as evidenced by completed claim documentation.

No agent or sales representative of Federal-Mogul Corporation has the authority to modify this warranty.

Other Federal-Mogul parts may carry different warranties.

#### **CLAIM PROCEDURES**

Federal-Mogul must be notified by the customer: (i) before filing a warranty claim, (ii) within one year of the date that the claim accrues, and (iii) before any work has been performed. All claims must be submitted in writing and Federal-Mogul reserves the right to examine all parts, systems and related information associated with the claim. (Note all shipping charges are the responsibility of the end-user or distributor, Federal-Mogul will not accept collect shipments). See your sales representative for detailed claim submission procedures and forms.

#### **WARNING**

Use parts only for applications and interchanges in this catalog.

Failure to heed this warning could result in reduced life or failure of the part. All parts listed in this catalog are not for use in space program, atomic energy/nuclear reactor equipment, medical or aircraft applications. Federal-Mogul reserves the right to make product improvements/changes, with respect to similar products previously manufactured, without notice and without incurring liability.





Les produits indiqués dans ce catalogue sont garantis contre toute défectuosité de matériel et de fabrication, dans des conditions d'utilisation et d'entretien normales, sur une période de deux ans à partir de la date d'installation dans un moteur, sans qualification de kilométrage ou horaire, conformément à la garantie limitée suivante.

Cette garantie est la garantie unique et exclusive pour la défaillance des pièces précitées.

Ce recours exclusif ne doit pas être présumé comme ayant échoué à son objectif essentiel, tant que Federal-Mogul approuve et est capable de fournir le recours fourni ci-dessous.

#### LIMITATIONS DE GARANTIE

Federal-Mogul accepte uniquement de payer les pièces et la main-d'œuvre nécessaires pour réparer les dommages de moteur qui résultent de la défaillance de la garantie définie. Les coûts sont limités aux pièces et à la main-d'œuvre nécessaires pour la restauration du moteur à l'état auquel il se trouvait juste avant la défaillance.

Les frais de main-d'œuvre sont déterminés par les prix et normes publiés à l'heure actuelle dans la zone géographique dans laquelle les réparations sont effectuées. Les heures supplémentaires ou les frais de jours fériés ne sont pas permis. Nous payons également les produits d'entretien, tels que l'huile, l'antigel, les courroies, les tuyaux et les éléments de filtre qui sont endommagés en raison d'une défaillance de garantie définie.

Federal-Mogul décline toute responsabilité pour une défaillance de moteur découlant d'une négligence ou d'un abus infligés par le propriétaire, l'opérateur ou une tierce partie, de procédures d'installation ou de réparations incorrectes, de l'altération ou d'une application incorrecte de pièces, d'un manque de réparation ou d'entretien adéquat du moteur et du véhicule conformément aux manuels d'utilisation et d'entretien OEM applicables, ou de l'utilisation dans un moteur modifié à des fins de compétition ou utilisé en compétition.

SAUF SUR SPÉCIFICATION EXPRESSE DANS LA PRÉSENTE, FEDERAL-MOGUL NE SERA RESPONSABLE, EN AUCUNE CIRCONSTANCE, POUR DES DOMMAGES SPÉCIAUX, INDIRECTS,

ACCESSOIRES OU CONSÉCUTIFS, Y COMPRIS, SANS S'Y LIMITER, DES DOMMAGES OU LA PERTE D'UNE AUTRE PROPRIÉTÉ OU D'UN AUTRE ÉQUIPEMENT, LA PERTE DE PROFITS OU DE REVENUS, LES FRAIS DE TRANSPORT ET DE REMORQUAGE, LES FRAIS DE BIENS ACHETÉS OU REMPLACÉS, OU LES DEMANDES DE CLIENTS DE L'ACHETEUR, QUI PEUVENT SE PRÉSENTER OU RÉSULTER DE LA VENTE, DE L'INSTALLATION OU DE L'UTILISATION DE CES PIÈCES.

Certaines juridictions ne permettent pas les limites sur la durée d'une garantie implicite, ni l'exclusion ou la limitation de dommages accessoires ou consécutifs, et, par conséquent, les limitations ou exclusions ci-incluses peuvent s'appliquer ou non pour votre cas. Cette garantie vous octroie des droits légaux spécifiques.

Vous disposez également d'autres droits en fonction de l'état ou de la province de votre résidence.

LA PRÉSENTE GARANTIE REMPLACE TOUTES AUTRES GARANTIES, EXPRESSES ET/OU IMPLICITES,
Y COMPRIS, SANS S'Y LIMITER, LES GARANTIES DE QUALITÉ MARCHANDE OU D'ADAPTATION À UN USAGE
PARTICULIER, ET ELLES SONT EXCLUES SI ELLES DEVAIENT DÉPASSER LA COUVERTURE DE GARANTIE
DÉCRITE PAR LA PRÉSENTE GARANTIE.

Cette garantie et le recours s'appliquent aux nouvelles pièces du moteur diesel FP de Federal-Mogul vendu directement à nos clients de pièces de rechange autorisés, tel qu'attesté par les documents de demande dûment remplis. Aucun agent ou représentant de ventes de Federal-Mogul Corporation ne dispose du droit de modifier la présente garantie. D'autres pièces de Federal-Mogul peuvent être couvertes par des garanties différentes.

#### PROCÉDURES DE DEMANDE

Le client doit notifier Federal-Mogul : (i) avant de remplir une demande au titre de la garantie, (ii) en l'espace d'un an à partir de la date à laquelle la demande est exercée, et (iii) avant l'exécution d'un travail quelconque.

Toutes les demandes doivent être soumises par écrit et Federal-Mogul se réserve le droit d'examiner toutes les pièces, tous les systèmes et toutes les informations associées à la demande.

(Veuillez noter que l'utilisateur final ou le distributeur est responsable pour tous les frais d'expédition; Federal-Mogul n'accepte aucun envoi en port-dû). Veuillez consulter votre représentant des ventes pour les formulaires et les procédures de soumission de demande détaillés.

#### **AVERTISSEMENT**

Utilisez uniquement les pièces pour les applications et les échanges de ce catalogue.

Un manque de respect de cet avertissement pourrait résulter en une durée de vie réduite ou une défaillance de la pièce. Aucune des pièces indiquées dans ce catalogue n'est destinée à être utilisée dans un programme d'espace, pour du matériel de réacteur nucléaire/d'énergie atomique, ou des applications médicales ou d'aéronefs.

Federal-Mogul se réserve le droit d'effectuer des améliorations/changements de produits, en ce qui concerne des produits similaires fabriqués auparavant, sans avis et sans assumer de responsabilité.





Se garantiza que todos los productos presentados en este catálogo no presentaran defecto alguno, ya sea en su material ni en su fabricación, bajo condiciones de uso y servicio normales. La garantía es de dos años de la fecha de la instalación en el motor, sin límites en el kilometraje o en las horas de funcionamiento. Esta es la única y exclusiva garantía si alguna de las partes listadas fuese a fallar. Este recurso exclusivo no se tomará como una falta, siempre y cuando Federal Mogul pueda remediarlo con las provisiones enumeradas mas abajo.

#### LIMITACIONES DE LA GARANTIA

Federal-Mogul pagará solo por las partes y la mano de obra necesarias para reparar daños al motor que resulten de una falla definida sobre la parte vendida. Los costos quedarán limitados a las partes y la mano de obra necesarias para restaurar el motor a la condición en la cual se encontraba inmediatamente antes de la falla.

Los costos de la mano de obra se determinarán por medio de precios publicados y estándares del área geográfica en la cual las reparaciones se lleven a cabo. No se permitirá agregar costos de tiempo extra ni por trabajo durante días festivos. Pagaremos por productos de mantenimiento tales como aceite, anti-congelantes, correas, manqueras y filtros dañados debido a alguna falla definida del producto vendido.

Federal-Mogul no se hará responsable por una falla de motor causada por el dueño, operador o un tercero, ya sea por su propia negligencia, abuso o instalación inadecuada o procedimientos de reparación inadecuados, por alteración o aplicación incorrecta de las partes, falta de servicio necesario o mantenimiento del motor o de el vehículo de acuerdo a los manuales de operación y mantenimiento de acuerdo fabricante original, o por la modificación de un motor para su uso en competencias o por haber sido usado en competencias.

FEDERAL-MOGUL NO SERÁ RESPONSABLE, BAJO NINGUNA CIRCUNSTANCIA, OTRO QUE NO SEA LO QUE SE HA MENCIONADO EXPLÍCITAMENTE EN ÉSTA GARANTÍA, POR CUALQUIER DAÑO INDIRECTO, ESPECIAL, ACCIDENTAL O CÓMO CONSECUENCIA DE OTROS DAÑOS, INCLUYENDO, PERO SIN QUE QUÉDE LIMITADO A DAÑOS O PÉRDIDAS DE BIENES O DE EQUIPO, PÉRDIDA DE GANANCIAS O INGRESOS, COSTOS DE GRÚA O TRANSPORTACIÓN, DE PARTES REEMPLAZADAS, O RECLAMOS DE CLIENTES DEL COMPRADOR, QUE PUEDAN RESULTAR DE LA VENTA, INSTALACIÓN, O USO DE ÉSTAS PARTES.

Algunas jurisdicciones no permiten limitaciones con respecto a la duración de garantías implícitas, o a la exclusión o limitación de daños accidentales, por lo tanto puede que las limitaciones o exclusiones contenidas en el presente no le apliquen a Ud. Esta garantía le ofrece derechos específicos. Ud. puede gozar de derechos adicionales dependiendo del estado o provincia en la cual viva.

ÉSTA GARANTIA REEMPLAZARA CUALQUIER Y TODA OTRA GARANTÍA, YA SEA EXPLÍCITA U IMPLÍCITA, INCLUYENDO, PERO NO LIMITANDOSE A GARANTÍAS PARA LA MERCANCÍA Y USO DE LA MISMA CON UN PROPÓSITO EN PARTICULAR, Y ESAS MISMAS QUEDARAN EXCLUIDAS SI EXCEDEN LA COBERTURA DESCRITA EN ÉSTA GARANTÍA.

Ésta garantía y recurso aplican a partes nuevas de motores de FP Diésel, vendidas directamente a nuestros clientes autorizados del mercado de reposición, lo cual será corroborado por medio de documentación usada en el reclamo. Ningún agente o representante de la empresa Federal-Mogul tiene autoridad para modificar ésta garantía.

Otras partes de Federal-Mogul pueden tener garantías diferentes.

#### PROCEDIMIENTO PARA PRESENTAR UN RECLAMO

Federal-Mogul debe ser notificado por el cliente: (i) antes de presentar un reclamo cubierto en la garantía, (ii) dentro del plazo de un año de ocurrida la falla, y (iii) antes de que se haya hecho algún trabajo.

Todo reclamo debe ser entregado por escrito y Federal-Mogul reserva el derecho a examinar todas las partes, sistemas e información relacionados y asociados al reclamo. (Todo cargo de envío será responsabilidad del usuario final o distribuidor, Federal-Mogul no aceptará envíos a cobrar). Contacte a su representante de ventas para conseguir el formulario de reclamos con el procedimiento detallado.

#### **ADVERTENCIA**

Las partes deben ser usadas sólo para las aplicaciones mencionadas en éste catálogo. El no seguir ésta advertencia puede que resulte en que le falle la parte o a que su vida quede reducida. Todas las partes listadas en éste catálogo no están hechas para el uso en programas espaciales, para equipos de energía atómica, o reactores nucleares, o para aplicaciones médicas ni en naves aéreas. Federal-Mogul se reserva el derecho de hacerle mejoras y cambios a los productos, con respecto a productos similares que se hayan fabricado previamente, sin notificación o responsabilidad legal alguna.







Engine Finding Index				
EngineLine No.EngineLine Engine				
6.7L 408 OHV Turbo-Diesel L6 4.3005" Bore (12 Valve) (International Eng.)	8.7L 530 OHV Turbo-Diesel L6 4.587" Bore (12 Valve) (International Eng.) 6 11.1L 677 SOHC Turbo-Diesel L6 130mm Bore (24 Valve) 7 12.7L 774 SOHC Turbo-Diesel L6 130mm Bore (24 Valve) 8 14.0L 858 SOHC Turbo-Diesel L6 133mm Bore (24 Valve) 9			
Engine Code Index				

Engine Code Index					
Engine Code	Engine Description	Line No.	Engine Code	Engine Description	Line No.
Series 40 (7.6L) Multi-Purpose Engines  Series 40 (8.7L) Multi-Purpose Engines  Series 50 (8.5L) Multi-Purpose Engines  Series 60 (11.1L)	6.7L 408 OHV Turbo-Diesel L6 4.3005" Bore (12 Valve) (International Eng.)	1 2 6 .4 5 L6	Series 60 (14.0L) Multi-Purpose Engines  8.2 (Fuel Pincher) Multi-Purpose Engines  8.2N (Fuel Pincher) Multi-Purpose Engines  8.2T (Fuel Pincher)	. 12.7L 774 SOHC Turbo-Dies 130mm Bore (24 Valve) . 14.0L 858 SOHC Turbo-Dies 133mm Bore (24 Valve) . 8.2L 500 OHV Diesel V8 108 Bore (Fuel Pincher) . 8.2L 500 OHV Diesel V8 108 Bore (Fuel Pincher)	



## Identifying the Series 40

The engine serial number for all Series 40 engines is stamped on a pad located on the upper left hand side of the engine crankcase, left of the fuel filter header. Reference to the "front" indicates the fan end of the engine. Whenever the terms "Right" or "Left" are used, the reference point is from a rear position looking forward to the fan end of the engine.

Listed below are model codes used to identify the engine and horsepower ratings for the Series 40 engines.

7.6L Engines	8.7L Engines
12NEE = 195HP @ 2400 rpm	12NEL = 205HP @ 2200 rpm
12NEG = 210HP @ 2400 rpm	12NEM = 275HP @ 2000 rpm
12NEH = 230HP @ 2400 rpm	12NEN = 275HP @ 2200 rpm
12NEJ = 250HP @ 2400 rpm	12NEP = 300HP @ 2000 rpm
12NEK = 275HP @ 2600 rpm	12NER = 300HP @ 2200 rpm
	12NEE = 195HP @ 2400 rpm 12NEG = 210HP @ 2400 rpm 12NEH = 230HP @ 2400 rpm 12NEJ = 250HP @ 2400 rpm

# **Detroit Diesel**



C.71	1	Multi-Purpose Engines Se	ries 40 Eng. (6.	.7L)	
Accordance			(12 Valve), 4.3005"	Bore (Int	ernational Eng.)
Valve Cover Gasket					
Second   Comment   Comme	1	Valve Cover Gasket	FP-1817510	SIZE	DESCRIPTION
24   Keeper				SIZE	DESCRIPTION
6 Exh.	-				5/16" valve stem
Int.		_	-	_	
12   Guide	-				
CAMSHAFT TIMING			-	SIZE	
CAMSHAFT TIMING				SIZE	
Woodruff Key	(	CAMSHAFT GROUP			
			-	SIZE	
1   Injector Nozzle Seat Gasket   FP-675477   Discover   FP-682810   Dust cover   FP-675442		<u>,                                      </u>			
6 Fuel Injector Sleeve FP-682810 Pust cover  7 TURBOCHARGER PART NO. Turbocharger Oil Inlet Gasket FP-253660 Turbocharger Oil Inlet Gasket FP-1822120  COOLING SYSTEM  TURD WATER PUMP PART NO. SIZE DESCRIPTION  TWATER PUMP PHEAVY Duty FP-1817687  ENGINE BLOCK & PARTS  TO GASKETS PART NO. SIZE DESCRIPTION  Oil Seal Kit FP-690437 Oil pan; RTV Sealant Oil pump; Incl. seal & wear sleeve Discription Part No. 1 Cam Set FP-680117 STD Also available as Sealed Power No. 1470M  CRANKSHAFT/OIL PUMP  TS SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION  OIl Seal Kit FP-690437 SIZE DESCRIPTION  TO IS Seal Kit FP-680437 SIZE DESCRIPTION  OIL Seal Kit FP-680437 SIZE DESCRIPTION  OIL Seal Kit FP-680437 SIZE DESCRIPTION  TO IS SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION  OIL Seal Kit FP-680437 Incl. seal & wear sleeve  TO IS SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION  OIL Seal Kit FP-680437 Incl. seal & wear sleeve  TO IS SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION  OIL Seal Kit FP-1817867 PP-1817867 PP-1817866 SIZE DESCRIPTION  OIL Seal Kit FP-1817867 PP-1812490 IO Position 1-2-3-4-5-6  Plain Main Brg. FP-1822491 20 Position 1-2-3-4-5-6  Plain Main Brg. FP-1822492 30 Position 1-2-3-4-5-6  Plain Main Brg. FP-1822494 10 Position 1-2-3-4-5-6  Plain Main Brg. FP-1	YTC	FUEL INJECTION	PART NO.	SIZE	
Fuel Injector Sleeve					
1 Turbocharger Oil Inlet Gasket FP-253660 FP-1822120  COOLING SYSTEM  QTY Water Pump Part NO. SIZE DESCRIPTION  ENGINE BLOCK & PARTS  QTY GASKETS P-1816593 Oil pan; RTV Sealant Oil pump; Incl. seal & wear sleeve  QTY CAM BEARINGS PART NO. SIZE DESCRIPTION  1 Cam Set FP-680437 Oil pump; Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION  1 Oil Seal Kit FP-690437 FP-690437 Oil pump; Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION  1 Oil Seal Kit FP-690437 Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. Incl. seal & wear sleeve  QTY SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION  1 Oil Seal Kit FP-1817867 PP-1815569  QTY MAIN BEARINGS PART NO. SIZE DESCRIPTION  6 Plain Main Brg. FP-1822391 STD Position 1-2-3-4-5-6  6 Plain Main Brg. FP-1822491 10 Position 1-2-3-4-5-6  6 Plain Main Brg. FP-1822492 30 Position 1-2-3-4-5-6  6 Plain Main Brg. FP-1822494 10 Position 7  FIanged Main Brg. FP-1822494 10 Position 7  CYLINDER COMPONENTS  QTY LINERS PART NO. FP-1822495 20 Position 7  CYLINDER COMPONENTS  QTY LINERS PART NO. FP-1815674 FP-1815674 FP-1815674 SEALS PART NO. FP	-				Dust cover
Turbocharger Mounting Gasket   FP-1822120				SIZE	DESCRIPTION
WATER PUMP					
Water Pump - Heavy Duty	(	COOLING SYSTEM			
		_		SIZE	DESCRIPTION
Chemicals	Ī	ENGINE BLOCK & PARTS			
Oil Seal Kit				SIZE	
CAM BEARINGS 1 Cam Set FP-680117 STD Also available as Sealed Power No. 1470M  CRANKSHAFT/OIL PUMP  CITY SEALS - FRONT CRANK PART NO. Oil Seal Kit FP-690437 Incl. seal & wear sleeve  CITY SEALS - REAR CRANK PART NO. Incl. seal & wear sleeve  CITY MAIN BEARINGS PART NO. SIZE DESCRIPTION  1 Oil Seal Kit FP-1817867  1 Wear Sleeve FP-1816569  CITY MAIN BEARINGS PART NO. SIZE DESCRIPTION  6 Plain Main Brg. FP-1822321 STD Position 1-2-3-4-5-6  6 Plain Main Brg. FP-1822491 20 Position 1-2-3-4-5-6  6 Plain Main Brg. FP-1822491 20 Position 1-2-3-4-5-6  6 Plain Main Brg. FP-1822492 30 Position 1-2-3-4-5-6  7 Planged Main Brg. FP-1822379 STD Position 7  1 Flanged Main Brg. FP-1822379 STD Position 7  1 Flanged Main Brg. FP-1822494 10 Position 7  1 Flanged Main Brg. FP-1822494 10 Position 7  1 Flanged Main Brg. FP-1822495 20 Position 7  1 Flanged Main Brg. FP-1822496 30 Position 7  1 Flanged Main Brg. FP-1822496 30 Position 7  1 Flanged Main Brg. FP-1822496 30 Position 7  2 FV LINDER COMPONENTS  CYLINDER COMPONENTS  CYLINDER COMPONENTS  CYLINDER Sealing Rings FP-1815674  6 Cyl. Liner Sealing Rings FP-1815674  6 Sealing Ring, Liner FP-1842115 PTFE  Sealing Ring, Liner FP-1842115 When depleted use FP-1842115	- 1				
Cam Set   FP-680117   STD   Also available as Sealed Power No. 1470M				SIZE	
SEALS - FRONT CRANK				STD	Also available as Sealed Power No. 1470M
1 Oil Seal Kit   FP-690437   Incl. seal & wear sleeve					
Oil Seal Kit   FP-1817867   Wear Sleeve   FP-1816569				SIZE	
Wear Sleeve   FP-1816569				SIZE	DESCRIPTION
FP-1822321   STD   Position 1-2-3-4-5-6					
6       Plain Main Brg.       FP-1822490       10       Position 1-2-3-4-5-6         6       Plain Main Brg.       FP-1822491       20       Position 1-2-3-4-5-6         6       Plain Main Brg.       FP-1822492       30       Position 1-2-3-4-5-6         1       Flanged Main Brg.       FP-1822379       STD       Position 7         1       Flanged Main Brg.       FP-1822494       10       Position 7         1       Flanged Main Brg.       FP-1822495       20       Position 7         1       Flanged Main Brg.       FP-1822496       30       Position 7         2       VLINERS       PART NO.       SIZE       DESCRIPTION         6       Cyl. Liner Sealing Ring Kit       FP-1815674       FP-1817633       FR-1817633       FR-1817633       FR-1817633       FR-1817633       FR-1817633       FR-1817633       FR-1817633       FR-1817633       FR-1817633<	YTC	MAIN BEARINGS	PART NO.	SIZE	DESCRIPTION
Plain Main Brg.   FP-1822491   20		•			
6 Plain Main Brg. FP-1822492 30 Position 1-2-3-4-5-6 1 Flanged Main Brg. FP-1822379 STD Position 7 1 Flanged Main Brg. FP-1822494 10 Position 7 1 Flanged Main Brg. FP-1822495 20 Position 7 1 Flanged Main Brg. FP-1822496 30 Position 7	-				
1       Flanged Main Brg.       FP-1822379       STD       Position 7         1       Flanged Main Brg.       FP-1822494       10       Position 7         1       Flanged Main Brg.       FP-1822495       20       Position 7         1       Flanged Main Brg.       FP-1822496       30       Position 7         CYLINDER COMPONENTS         QTY LINERS       PART NO.       SIZE DESCRIPTION         6       Cyl. Liner Wo Sealing Rings       FP-1815674       FP-1822322         6       Cyl. Liner Sealing Ring, Liner       FP-1817633       FP-1817633         6       Sealing Ring, Liner       FP-1842115       PTFE         6       Sealing Ring, Liner       FP-1817000 +       When depleted use FP-1842115					
1         Flanged Main Brg.         FP-1822495         20         Position 7           Flanged Main Brg.         FP-1822496         30         Position 7           CYLINDER COMPONENTS           QTY LINERS         PART NO.         SIZE         DESCRIPTION           6         Liner w/o Sealing Rings         FP-1815674         FP-1822322           6         Cyl. Liner Sealing Ring Kit         FP-1822322         FP-1817633           6         Sealing Ring, Liner         FP-1842115         PTFE           6         Sealing Ring, Liner         FP-1817000 +         When depleted use FP-1842115	1		FP-1822379		
Telanged Main Brg.         FP-1822496         30 Position 7           CYLINDER COMPONENTS           QTY         Liners         PART NO.         SIZE         DESCRIPTION           6         Liner w/o Sealing Rings         FP-1815674         FP-1822322           6         Cyl. Liner Sealing Ring Kit         FP-1822322         FP-1817633           6         Sealing Ring, Liner         FP-1842115         PTFE           6         Sealing Ring, Liner         FP-1817000 +         When depleted use FP-1842115					
CYLINDER COMPONENTS           QTY LINERS         PART NO.         SIZE DESCRIPTION           6 Liner w/o Sealing Rings         FP-1815674           6 Cyl. Liner Sealing Ring Kit         FP-1822322           6 Sealing Ring, Liner         FP-1817633           6 Sealing Ring, Liner         FP-1842115           6 Sealing Ring, Liner         FP-1817000 +           When depleted use FP-1842115					
Carrow   C					
6 Cyl. Liner Sealing Ring Kit FP-1822322 6 Sealing Ring, Liner FP-1817633 6 Sealing Ring, Liner FP-1842115 PTFE 6 Sealing Ring, Liner FP-1817000 + When depleted use FP-1842115	YTC	LINERS		SIZE	DESCRIPTION
6 Sealing Ring, Liner FP-1817633 6 Sealing Ring, Liner FP-1842115 PTFE 6 Sealing Ring, Liner FP-1817000 + When depleted use FP-1842115	-				
6 Sealing Ring, Liner FP-1842115 PTFE 6 Sealing Ring, Liner FP-1817000 + When depleted use FP-1842115					
6 Sealing Ring, Liner FP-1817000 + When depleted use FP-1842115	-				PTFE
OTV PIOTONO					
		PISTONS	PART NO.	SIZE	DESCRIPTION
6   Pin					
6 Pin Bushing FP-1818598					





Multi-Purpose Engines Series 40 Eng. (6.7L) 6.7L 408 OHV Turbo-Diesel L6 (12 Valve), 4.3005" Bore (International Eng.) (cont.) **CYLINDER COMPONENTS (cont.) CONNECTING RODS &** PART NO. SIZE DESCRIPTION QTY BRGS. FP-1822389 Rod Pair STD 6 Rod Pair FP-1822486 6 10 Rod Pair 6 FP-1822487 20 QTY PISTON RINGS SIZE DESCRIPTION PART NO. Ring Set Single Cylinder FP-1817247 Multi-Purpose Engines Series 40 Eng. (7.6L) 2 7.6L 466 OHV Turbo-Diesel L6 (12 Valve), 4.3005" Bore (International Eng.) **CYL. HEAD & PARTS** SIZE DESCRIPTION QTY GASKETS PART NO. Head Gasket FP-1817562 DT466P Engs. QTY **VALVE** PART NO. DESCRIPTION FP-675046 Intake 6 6 Intake FP-1824642 DT466P Engs.; From Ser. No. 956464 Intake FP-1818580 DT466P Engs.; To Ser. No. 956463 6 6 Exhaust FP-676865 6 Exhaust FP-1824842 DT466P Engs.; From Ser. No. 956464; 3/8" valve stem DT466P Engs.; To Ser. No. 956463; 5/16" valve stem 6 Exhaust FP-1824838 DT466P Engs.; From Ser. No. 956464 24 Keeper FP-1824644 FP-1810944 DT466P Engs.; To Ser. No. 956463 24 Keeper VK-138 1 groove; Square cut key groove 24 Keeper VALVE SEAT DESCRIPTION QTY PART NO. SIZE Also available as Sealed Power No. 245-1628-1N 6 Exh. FP-671563 DT466P Engs.; I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, 6 Exh. FP-675450 STD .3650" Depth Also available as Sealed Power No. 245-2001-1 6 Int. FP-671559 FP-675043 STD DT466P Engs.; I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, 6 Int. .3860" Depth QTY **VALVE GUIDE** PART NO. SIZE **DESCRIPTION** DT466P Engs.; From Ser. No. 956464; .375" ID, .6262" OD, FP-1824646 12 Guide 2.39" O.A.L.; .3750" ID, 2.3900" O.A.L. 12 FP-1820264 DT466P Engs.; To Ser. No. 956463; .315" ID, .565" OD, 2.391" Guide O.A.L. 12 Guide FP-1815264 From 6/89; new style, cut for valve stem seal 12 Guide FP-675439 To 5/89 QTY **VALVE SPRING** PART NO. SIZE DESCRIPTION FP-682064 Also available as Sealed Power No. VS-858; 2.3400" Free Height 12 Spring 6 Spring FP-1825540 Exh.; DT466P Engs. 6 FP-677349 Int.; DT466P Engs. Spring VALVE MISC. SIZE **DESCRIPTION** QTY PART NO. Rotocap Assy. To Ser. No. 594839; Also available as Sealed Power No. RC-150 6 FP-1811581 DT466P Engs.; From Ser. No. 95464; Valve stem seal incl. 12 Rotocap FP-1824680 Valve Rotator Seal FP-1824683 DT466P Engs.; From Ser. No. 95464 CAMSHAFT GROUP QTY TIMING PART NO. SIZE **DESCRIPTION** Cam Gear Also available as Sealed Power No. 221-3312; 66 Teeth 1 FP-675600 QTY CAMSHAFT TIMING **DESCRIPTION** PART NO. SIZE Woodruff Key FP-218211 Cam gear; 1/4" x 3/4" QTY CAMSHAFT/LIFTER PART NO. SIZE DESCRIPTION 4 oz. bottle; 1.5 oz. packet No. 55-403 also avail. Prelube 55-400 Prelube 55-400 4 oz. bottle; 1.5 oz. packet No. 55-403 also avail. **FUEL SYSTEM & PARTS** QTY FUEL INJECTION PART NO. SIZE DESCRIPTION DT466P Engs.; .060" thick 6 Injector Nozzle Seat Gasket FP-675477 6 Grommet FP-682810 Injector dust seal; DT466P Engs. Fuel Injector Sleeve FP-675442 DT466P Engs. 6 QTY TURBOCHARGER PART NO. SIZE **DESCRIPTION** Turbocharger Mounting Gasket DT466P Engs. FP-1822120

# **Detroit Diesel**



Multi-Purpose Engines Ser	ies 40 Eng. (7.6L  2 Valve), 4.3005" Bo	-) ore (Int	ernational Eng.)
COOLING SYSTEM		(	
WATER PUMP Water Pump - Heavy Duty	PART NO. FP-1817687	SIZE	DESCRIPTION DT466P Engs.
ENGINE BLOCK & PARTS			
GASKETS Chemicals	PART NO. FP-1816593	SIZE	<b>DESCRIPTION</b> Oil Pan; DT466P Engs.; For oil pan w/o mounting bars; RTV Sealant
GASKET SETS In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set	PART NO. FP-PGN466IF PGN466-IF + FP-PGN466C PGN466C +	SIZE	DESCRIPTION Head set & bearing roll-in Head set & bearing roll-in; When depleted use FP-PGN466IF When depleted use FP-PGN466C
CAM BEARINGS Cam Set	PART NO. FP-680117		•
CRANKSHAFT/OIL PUMP			
SEALS - FRONT CRANK Oil Seal Kit	PART NO. FP-690437	SIZE	DESCRIPTION DT466P Engs.; Incl. seal & wear sleeve
SEALS - REAR CRANK Oil Seal Kit	PART NO. FP-1817867	SIZE	DESCRIPTION
MAIN BEARINGS Plain Main Brg. Flanged Main Brg.	PART NO. FP-1822321 FP-1822490 FP-1822491 FP-1822492 FP-1822379 FP-1822494 FP-1822495 FP-1822496	STD 10 20 30 STD 10 20	DESCRIPTION Position 1-2-3-4-5-6; DT466P Engs. Position 1-2-3-4-5-6; DT466P Engs. Position 1-2-3-4-5-6; DT466P Engs. Position 1-2-3-4-5-6; DT466P Engs. Position 7; DT466P Engs.
CYLINDER COMPONENTS			
LINERS Liner w/o Sealing Rings Cylinder Kit Complete	PART NO. FP-1815674 FP-1824820	STD	DT466P Engs. DT466P (NGD) Engs.; From Ser. No. 888341; 2 Keystone rings; Barrel skirt; Bowl Dia. 2.580"
Cylinder Kit Complete	FP-1824823		DT466P Engs.; From Ser. No. 888341 to 933833; 1 Keystone ring; Barrel skirt; Bowl Dia. 2.540"
		SID	DT466P Engs.; To Ser. No. 888340; 2 Keystone rings; Tapered skirt; Bowl Dia. 2.519" DT466P Engs.
, ,		SIZE	DESCRIPTION
Piston Body w/o Pin	FP-1824810	STD	DT466P (NGD) Engs.; From Ser. No. 888341; 1 Keystone ring; Barrel skirt; Bowl Dia. 2.540"
,	FP-1823930	STD	DT466P (NGD) Engs.; From Ser. No. 888341; 2 Keystone rings; Barrel skirt; Bowl Dia. 2.580"
,		SID	DT466P Engs.; To Ser. No. 888340; 2 Keystone rings; Tapered skirt; Bowl Dia. 2.519" DT466P (NGD) Engs.; From Ser. No. 888341; 1 Keystone ring
			DT466P Engs.; To Ser. No. 888340
Piston Kit w/Pin & Retainers	FP-1822097WP		
Pin	FP-1818552		DT466P Engs.
Pin Piston Pin Retainer Pin Bushing			
Pin Piston Pin Retainer	FP-1818552 FP-1818702	STD 10	DT466P Engs. DT466P Engs.
Pin Piston Pin Retainer Pin Bushing  CONNECTING RODS & BRGS. Rod Pair Rod Pair	FP-1818552 FP-1818702 FP-1818598 PART NO. FP-1822389 FP-1822486	STD 10	DT466P Engs. DT466P Engs. DT466P Engs.  DESCRIPTION DT466P Engs. DT466P Engs. DT466P Engs. DT466P Engs.
Pin Piston Pin Retainer Pin Bushing  CONNECTING RODS & BRGS. Rod Pair PISTON RINGS Ring Set Single Cylinder	FP-1818552 FP-1818702 FP-1818598 PART NO. FP-1822389 FP-1822486 FP-1822487 PART NO. FP-1825461	STD 10 20	DT466P Engs. DT466P Engs. DT466P Engs.  DESCRIPTION DT466P Engs. DT466P Engs. DT466P Engs. DT466P Engs. DT466P Engs. DT466P Engs.
	T.O. AGE 466 OHV Turbo-Diesel L6 (1)  COOLING SYSTEM  WATER PUMP Water Pump - Heavy Duty  ENGINE BLOCK & PARTS  GASKETS Chemicals  GASKET SETS In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set CAM BEARINGS Cam Set  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Kit  SEALS - REAR CRANK Oil Seal Kit  MAIN BEARINGS Plain Main Brg. Plain Main Brg. Plain Main Brg. Flanged Main Brg. CYLINDER COMPONENTS  LINERS Liner w/o Sealing Rings Cylinder Kit Complete  Cylinder Kit Complete  Cylinder Kit Complete  Cyl. Liner Sealing Ring Kit  PISTONS	T.) 7.6L 466 OHV Turbo-Diesel L6 (12 Valve), 4.3005" Bot COOLING SYSTEM  WATER PUMP	tt.) 7.6L 466 OHV Turbo-Diesel L6 (12 Valve), 4.3005" Bore (Int COOLING SYSTEM  WATER PUMP

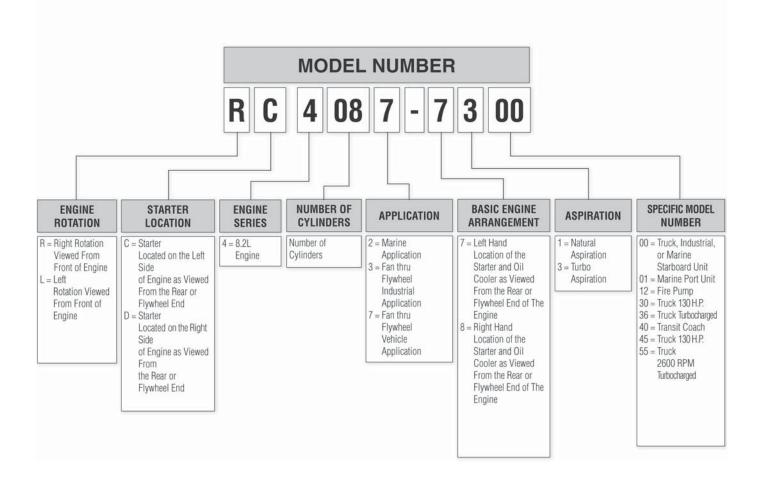
# 8.2L Engine



#### Identifying the 8.2L

The options and equipment for 8.2L engines can be identified by the Option Label that includes the engine serial number and model number. Engines prior to serial number 8G27987 were built with standard equipment only. No optional equipment was offered and no model label was provided. Engines after serial number 8G27987 will have the Option Label located behind the water pump.

A typical Model Number would be RC 4087-7300. This Model Number is broken down below to demonstrate the identification on the engine.







# 8.2L Specialty Gasket Sets

ENGINE	PART NO.	DESCRIPTION
8.2L	FP-8924126 10	Overhaul Gasket Set w/.010" O/S Cyl. Head Gaskets – No Valve Cover Gaskets
8.2L	FP-8924126C	Overhaul Gasket Set w/Front Seal & 11 Hole Valve Cover Gaskets – Engines w/o Breather
8.2L	FP-8924126-C 10	Overhaul Gasket Set w/.010" O/S Cyl. Head Gaskets, Front Seal & 11 Hole Valve Cover Gaskets – Engines w/o Breather
8.2L	FP-8924126CB	Overhaul Gasket Set w/Front Seal & 9 Hole Valve Cover Gaskets – Engines w/Breather
8.2L	FP-8924126-WS	Overhaul Gasket Set w/Bi-Directional Crankshaft Seals
8.2L	FP-8924127MV	Multiple Cyl. Head Gasket Set w/11 Hole Valve Cover Gaskets – Engines w/o Breather
8.2L	FP-8924127MVB	Multiple Cyl. Head Gasket Set w/9 Hole Valve Cover Gaskets – Engines w/Breather
8.2L	FP-8924127V	Single Cyl. Head Gasket Set w/11 Hole Valve Cover Gaskets – Engines w/o Breather
8.2L	FP-8924127VB	Single Cyl. Head Gasket Set w/9 Hole Valve Cover Gaskets – Engines w/Breather
8.2L	FP-8924127 10	Single Cyl. Head Gasket Set w/.010" O/S Cyl. Head Gaskets – No Valve Cover Gaskets
8.2L	PGE4126	Overhaul Gasket Set w/o Cylinder Head Gaskets
8.2L	PGE4126C 10	Overhaul Gasket Set w/.010" O/S Cyl. Head Gaskets, Crankshaft Seals – Engines w/o Breather
8.2L	PGE4127-IF	In-Frame Overhaul Gasket Set
8.2L	PGE4127-IF 10	In-Frame Overhaul Gasket Set w/.010" O/S Cyl. Head Gaskets

# 8.2L Engine



# 8.2L Naturally Aspirated Engine In-Frame Overhaul

KIT NUMBER	COMPONENT NO.	QTY.	PART SIZE	PART DESCRIPTION	PART APPLICATION
FP-8.2-NA	FP-8921605	8	Std.	Piston Body w/o Pin	18.8:1 C.R. – Grade A
	FP-8922234	8	Std.	Piston Body w/o Pin	18.8:1 C.R. – Grade B
	FP-8922236	8	Std.	Piston Body w/o Pin	18.8:1 C.R. – Grade C
	FP-8928520	8	Std.	Piston Body w/o Pin	18.8:1 C.R. – Grade D
	FP-8922451	8	.005"	Piston Body w/o Pin	18.8:1 C.R.
	FP-8922452	8	.010"	Piston Body w/o Pin	18.8:1 C.R.
	FP-8922453	8	.020"	Piston Body w/o Pin	18.8:1 C.R.
	FP-8925717	8		Piston Pin	
	FP-8922977	16		Piston Pin Retainer	
	FP-8921721	8	Std.	Single Cylinder Ring Set	
	FP-8923779	8	.005"	Single Cylinder Ring Set	
	FP-8923917	8	.010"	Single Cylinder Ring Set	
	FP-8923919	8	.020"	Single Cylinder Ring Set	
	FP-8921714	8	Std.	Rod Bearing Pair	
	FP-8924703	8	.25MM	Rod Bearing Pair	
	FP-5099M	1	Std.	Main Bearing Set	
	FP-5099M .25MM	1	.25MM	Main Bearing Set	
	FP-5099M .50MM	1	.50MM	Main Bearing Set	
	FP-8924127	1	Std.	Head Gasket Set	Includes Standard Head Gasket  – No Valve Cover Gasket
	FP-8924127 10	1	.010"	Head Gasket Set	Includes .010" O/S Head Gasket  - No Valve Cover Gasket
	FP-8920271	1		Valve Cover Gasket	Early Style w/11 mounting holes
	FP-8926675	1		Valve Cover Gasket	Late Style w/9 mounting holes
	FP-5149728	1		Oil Pan Gasket Set	





# 8.2L Naturally Aspirated Engine Complete Overhaul

KIT NUMBER	COMPONENT NO.	QTY.	PART SIZE	PART DESCRIPTION	PART APPLICATION
FP-8.2-NA-OH	FP-8921605	8	Std.	Piston Body w/o Pin	18.8:1 C.R. – Grade A
	FP-8922234	8	Std.	Piston Body w/o Pin	18.8:1 C.R. – Grade B
	FP-8922236	8	Std.	Piston Body w/o Pin	18.8:1 C.R. – Grade C
	FP-8928520	8	Std.	Piston Body w/o Pin	18.8:1 C.R Grade D
	FP-8922451	8	.005"	Piston Body w/o Pin	18.8:1 C.R.
	FP-8922452	8	.010"	Piston Body w/o Pin	18.8:1 C.R.
	FP-8922453	8	.020"	Piston Body w/o Pin	18.8:1 C.R.
	FP-8925717	8		Piston Pin	
	FP-8922977	16		Piston Pin Retainer	
	FP-8921721	8	Std.	Single Cylinder Ring Set	
	FP-8923779	8	.005"	Single Cylinder Ring Set	
	FP-8923917	8	.010"	Single Cylinder Ring Set	
	FP-8923919	8	.020"	Single Cylinder Ring Set	
	FP-8921714	8	Std.	Rod Bearing Pair	
	FP-8924703	8	.25MM	Rod Bearing Pair	
	FP-5099M	1	Std.	Main Bearing Set	
	FP-5099M .25MM	1	.25MM	Main Bearing Set	
	FP-5099M .50MM	1	.50MM	Main Bearing Set	
	FP-8924126	1	Std.	Complete Overhaul Gasket Set	Includes Standard Head Gasket – No Valve Cover Gasket
	FP-8924126 10	1	.010"	Complete Overhaul Gasket Set	Includes .010" O/S Head Gasket – No Valve Cover Gasket
	FP-8920271	1		Valve Cover Gasket	Early Style w/11 mounting holes
	FP-8926675	1		Valve Cover Gasket	Late Style w/9 mounting holes
					A117

# 8.2L Engine



# 8.2L Turbocharged Engine In-Frame Overhaul

KIT NUMBER	COMPONENT NO.	QTY.	PART SIZE	PART DESCRIPTION	PART APPLICATION	
FP-8.2-T	FP-8925818	8	Std.	Piston Body w/o Pin	17.4:1 C.R. – Grade A	
	FP-8925819	8	Std.	Piston Body w/o Pin	17.4:1 C.R. – Grade B	
	FP-8925820	8	Std.	Piston Body w/o Pin	17.4:1 C.R. – Grade C	
	FP-8928521	8	Std.	Piston Body w/o Pin	17.4:1 C.R. – Grade D	
	FP-8925815	8	.005"	Piston Body w/o Pin	17.4:1 C.R.	
	FP-8925816	8	.010"	Piston Body w/o Pin	17.4:1 C.R.	
	FP-8925817	8	.020"	Piston Body w/o Pin	17.4:1 C.R.	
	FP-8925717	8		Piston Pin		
	FP-8922977	16		Piston Pin Retainer		
	FP-8921722	8	Std.	Single Cylinder Ring Set		
	FP-8923780	8	.005"	Single Cylinder Ring Set		
	FP-8923918	8	.010"	Single Cylinder Ring Set		
	FP-8923920	8	.020"	Single Cylinder Ring Set		
	FP-8921714	8	Std.	Rod Bearing Pair		
	FP-8924703	8	.25MM	Rod Bearing Pair		
	FP-5099M	1	Std.	Main Bearing Set		
	FP-5099M .25MM	1	.25MM	Main Bearing Set		
	FP-5099M .50MM	1	.50MM	Main Bearing Set		
	FP-8924127	1	Std.	Head Gasket Set	Includes Standard Head Gasket  – No Valve Cover Gasket	
	FP-8924127 10	1	.010"	Head Gasket Set	Includes .010" O/S Head Gasket – No Valve Cover Gasket	
	FP-8920271	1		Valve Cover Gasket	Early Style w/11 mounting holes	
	FP-8926675	1		Valve Cover Gasket	Late Style w/9 mounting holes	
	FP-5149728	1		Oil Pan Gasket Set		





# 8.2L Turbocharged Engine Complete Overhaul

KIT NUMBER	COMPONENT NO.	QTY.	PART SIZE	PART DESCRIPTION	PART APPLICATION
FP-8.2-T-OH	FP-8925818	8	Std.	Piston Body w/o Pin	17.4:1 C.R. – Grade A
	FP-8925819	8	Std.	Piston Body w/o Pin	17.4:1 C.R. – Grade B
	FP-8925820	8	Std.	Piston Body w/o Pin	17.4:1 C.R Grade C
	FP-8928521	8	Std.	Piston Body w/o Pin	17.4:1 C.R Grade D
	FP-8925815	8	.005"	Piston Body w/o Pin	17.4:1 C.R.
	FP-8925816	8	.010"	Piston Body w/o Pin	17.4:1 C.R.
	FP-8925817	8	.020"	Piston Body w/o Pin	17.4:1 C.R.
	FP-8925717	8		Piston Pin	
	FP-8922977	16		Piston Pin Retainer	
	FP-8921722	8	Std.	Single Cylinder Ring Set	
	FP-8923780	8	.005"	Single Cylinder Ring Set	
	FP-8923918	8	.010"	Single Cylinder Ring Set	
	FP-8923920	8	.020"	Single Cylinder Ring Set	
	FP-8921714	8	Std.	Rod Bearing Pair	
	FP-8924703	8	.25MM	Rod Bearing Pair	
	FP-5099M	1	Std.	Main Bearing Set	
	FP-5099M .25MM	1	.25MM	Main Bearing Set	
	FP-5099M .50MM	1	.50MM	Main Bearing Set	
	FP-8924126	1	Std.	Complete Overhaul Gasket Set	Includes Standard Head Gasket  - No Valve Cover Gasket
	FP-8924126 10	1	.010"	Complete Overhaul Gasket Set	Includes .010" O/S Head Gaske - No Valve Cover Gasket
	FP-8920271	1		Valve Cover Gasket	Early Style w/11 mounting holes
	FP-8926675	1		Valve Cover Gasket	Late Style w/9 mounting holes



## Multi-Purpose Engines 8.2, 8.2N Engs. (Fuel Pincher) 8.2L 500 OHV Diesel V8 (Fuel Pincher), 108mm Bore

			8.2	2L 500 OHV Diesel V8 (Fuel Pincher), 108mm Bore
	CYL. HEAD & PARTS			
QTY	GASKETS	PART NO.	SIZE	DESCRIPTION
2	Valve Cover Gasket	FP-8920271		w/o Breather
2	Valve Cover Gasket	FP-8926675		w/Breather
2	Head Gasket	FP-8923848		
1	Head Set	FP-8924127		
1	Head Set	FP-892412710		Incl010" oversized cylinder head gskt.; Valve cover gskt. not incl.
1	Head Set	FP-8924127V		Incl. 11 hole valve cover gskts. for valve covers w/o breather
1	Head Set	FP-8924127VB		Incl. 9 hole valve cover gskts. for valve covers w/breather
1	Multiple Cyl. Head Gskt. Set	FP-8924127MV		Incl. 11 hole valve cover gskts. for valve covers w/o breather
1	Multiple Cyl. Head Gskt. Set Breather Seal Ring	FP-8924127MVB FP-8921294		Incl. 9 hole valve cover gskts. for valve covers w/breather
QTY	HEAD BOLTS	PART NO.	SIZE	DESCRIPTION
10	Head Bolt	FP-23500463		M15 x 2.0 x 128MM; 12 Point head
10	Head Bolt	FP-23500462		M15 x 2.0 x 158MM; 12 Point head
2	Head Bolt Set	FP-2602522		Replacement recommended; 15MM bolts only
2	Head Bolt Set	260-2522 +		Replacement recommended; 15MM bolts only; When depleted use FP-2602522
20	Washer	FP-8921876		To Ser. No. 8G138422; Exc. Marine applications
	VALVE	PART NO.	SIZE	DESCRIPTION
8 8	Intake Exhaust	FP-8920119 FP-8921347		
8	Exhaust Valve Kit	FP-23502067		Valve & valve keepers incl.
8	Intake Valve Kit	FP-23502007 FP-23502068		Valve & valve keepers incl.  Valve & valve keepers incl.
16	Valve Guide Cap	FP-5199914		Seal installer; Clear
32	Keeper	FP-23507238		1 groove; Square cut key groove
32	Keeper	VK-115R		1 groove; Square cut key groove; Hardened
32	Keeper, Bulk	VK-115B		1 groove; Square cut key groove; Carton of 1000
QTY	VALVE GUIDE	PART NO.	SIZE	DESCRIPTION
16	Guide	FP-VG5079T		Exh. & Int.; .3440" ID, 2.8750" O.A.L.
<b>QTY</b> 16	VALVE SPRING Spring	<i>PART NO.</i> FP-8927857	SIZE	<b>DESCRIPTION</b> Exh. & Int.; Also available as Sealed Power No. VS-1645
QTY 8	PUSH RODS Push Rod Spring	PART NO. FP-8921253	SIZE	DESCRIPTION
QTY	VALVE MISC.	PART NO.	SIZE	DESCRIPTION
16	Rotocap	FP-8922369		Also available as Sealed Power No. RC-155
2	Oil Filler Cap	FP-5108474		Twist Type
<b>QTY</b> 16	VALVE SEAL Valve Stem Seal	PART NO. FP-23500480	SIZE	DESCRIPTION
	ROCKER PARTS	PART NO.	SIZE	DESCRIPTION
8	Rocker Shaft	FP-8920478		Includes plug; Also available as Sealed Power No. RS-657
8	Expansion Plug	FP-5151272		Rocker shaft
8	Cam Follower Roller Set	FP-8923814		Injector; Incl. pin & roller
8	Cam Follower Roller Set	FP-8923813		Valve; Incl. pin & roller
	ELECTRICAL			
<b>QTY</b> 1	ELECTRICAL Starting Motor Gasket	PART NO. FP-5130995	SIZE	DESCRIPTION
	INT & EXH MANIFOLDS			
QTY	INT. & EXH. MANIFOLDS	PART NO.	SIZE	DESCRIPTION
2	Exhaust Manifold Gasket	FP-8921817		
1	Cyl. Block Valley Cover Gskt.	FP-8920220		Front
1	Cyl. Block Valley Cover Gskt.	FP-8920246		Rear
2	Extruded Seal	FP-8920219		Side Valley Pan
3	Pipe Plug Pipe Plug	FP-23511574 FP-8923847		1/2" pipe thread; w/1" Square head 1/4" x 18 NPTF; Square head
	AIR INTAKE	PART NO.	SIZE	DESCRIPTION
2	Air Intake Housing Gasket	FP-8920247		
	AIR CLEANER	PART NO.	SIZE	
1	Air Cleaner Adapter Screen	FP-8920732		Mounting adapter
1	Air Cleaner Adapter Screen	FP-8927214		Mounting adapter; Closed breather system
1	Pipe Plug	FP-5142549		Mounting adapter; 3/4" - 14 Square Head
2	Seal & Plate Assembly	FP-8921883		Mounting adapter

# **Detroit Diesel**



(cor	Multi-Purpose Engines 8.2, at.) 8.2L 500 OHV Diesel V8 (Fuel Pin			cher)
	CAMSHAFT GROUP			
QTY	TIMING COVER	PART NO.	SIZE	DESCRIPTION
1	Crankshaft Front Cover Gasket	FP-8920273		Cover to eil non
1	Crankshaft Front Cover Gasket	FP-8923090		Cover to oil pan
	FUEL SYSTEM & PARTS			
QTY 8	FUEL INJECTION	PART NO. FP-8920390	SIZE	DESCRIPTION
8	Fuel Injector Seal Ring Injector Hole Tube Kit	FP-8925981A		
8	Injector Hole Tube Kit	FP-5149724		Injector tube seal ring incl.
8	Fuel Injector	FP-5229850		4A53
8	Fuel Injector Repair Kit Bracket	FP-5229930 FP-8920350		Control tube
8	Fuel Injection Valve Cage	FP-5229726		Spring cage
8	Fuel Injection Spring Seat	FP-5228766		Valve spring seat
8	Fuel Injector Valve Spring Fuel Injector Check Valve	FP-5228596 FP-5228694		
8	Injector Plunger & Bushing	FP-5229840		4A53 & 4B55; Assembly
8	Fuel Injector Tip Kit	FP-5229727		4A53
8	Fuel Injector Tip Kit	FP-5229846		4C65
8	Nut Fuel Injector Valve Kit	FP-5229720 FP-5228769		Fuel injector valve
QTY	FUEL FILTERS & PUMP	PART NO.	SIZE	DESCRIPTION
1	Mechanical Fuel Pump	FP-5199735	OIZL	Left hand; High output; w/.375" Gear
1	Mechanical Fuel Pump	FP-5199560		Left hand; Std. output; w/.250" Gear
1	Mechanical Fuel Pump	FP-5199561		Right hand
1 1	Mechanical Fuel Pump Fuel Pump Valve Plug Gasket	FP-5199734 FP-5161003		Right hand; High output
1	Fuel Pump Shaft & Gear	FP-5181747		Driven; .838" Length; Std. Output
1	Fuel Pump Valve	FP-5174973		
1 1	Fuel Pump Coupling Fuel Pump Gear	FP-5154216 FP-5174975		.294" Width; Std. Output
1	Fuel Pump Drive Shaft	FP-5178700		Drive; 3.09" Length
1	Fuel Pump Relief Valve Spring	FP-5184530		
1	Fuel Pump Repair Part	FP-5174971		Fuel pump valve; .500" x 20 plug
1 1	Fuel Pump Drive Adapter Gskt. Oil Seal	FP-5150193 FP-23512243		Fuel pump to block Fuel pump
1	Fuel Pump Repair Kit	FP-5149599		w/High output fuel pump; High output; Short Shaft
1	Fuel Pump Repair Kit	FP-5195078		w/Std. fuel pump; Std. output
2 2	Pipe Plug Pipe Plug	FP-5121182 FP-8923847		Fuel filter cover; 1/4" - 18; Hex head Fuel filter cover; 1/4" x 18 NPTF; Square head
2	Pipe Plug	FP-8924380		Fuel pump drain; 1/8" - 27
1	Plastic Cap	FP-5136240		Fuel pump drain; .250" Dia.
2	Plastic Cap	FP-5136241		Fuel pump drain; .780" Dia., 3/8" NPTF
1 2	Dowel Pin Dowel Pin	FP-103709 FP-141195		Fuel pump valve spring; 5/32" x 1" straight Fuel pump body; .250" x .625"
1	Ball Brg.	FP-147481		Drive gear; .125" Dia. Steel
1	Bushing	FP-5198558		Fuel pump cover; 3/8" x 1/4"
1	Bushing	FP-5198558		Fuel pump shaft; 3/8" x 1/4"
	GOVERNOR			
	GOVERNOR	PART NO.	SIZE	
1 1	Retaining Ring Governor Spring	FP-9411502 FP-5122165		Governor weight shaft end brg. Low speed; w/One Blue Stripe
	Governor Spring	FP-5122105 FP-5183704		Low speed; w/Two Yellow Stripes
1	Governor Low Speed Spring Cap	FP-5103975		'
1	Screw	FP-5102270		Low speed spring adjusting; .250" - 28 x 1.00"
1 2	O-Ring Cylindrical Brg.	FP-5176557 FP-148402		Variable speed spring lever shaft packing; .477" ID x .113" Thick Variable speed spring lever shaft; .500" x .500" Dia.
4	Governor Valve Spring Shim	FP-5136590		Variable speed; .010"
2	Governor Valve Spring Shim	FP-5136591		Variable speed; .078"
1	Pin Governor Potainor	FP-457008		Variable speed shaft pin; 3/16" x 1 1/2"
2 2	Governor Retainer Governor Retainer	FP-5178581 FP-5144178		Variable speed throttle shaft; Lower Variable speed throttle shaft; Upper
1	Ball Brg.	FP-9437108		Gov. Weight Riser Thrust Brg.; .354" Width
1	Ball Brg.	FP-23506244		Governor weight shaft end brg.
1	Ball Brg. Governor Riser	FP-9431894 FD-5117103		Upper operating shaft
1 1	Governor Riser Governor Spring Cover Gasket	FP-5117193 FP-8922593		1.062" Length High speed
1	Nut	FP-5174286		Governor buffer screw; 3/8" - 24 UNF
1	Governor to Cyl. Block Gasket	FP-8920308		





Multi-Purpose Engines 8.2, 8.2N Engs. (Fuel Pincher) 3 8.2L 500 OHV Diesel V8 (Fuel Pincher), 108mm Bore (cont.)

			0.4	2L 500 OHV Diesel V8 (Fuel Pincher), 108mm Bore (cont.)
	GOVERNOR (cont.)			
OTV	GOVERNOR (cont.)	PART NO.	SIZE	DESCRIPTION
1	Governor Gasket	FP-5180539	SIZE	Variable speed cover; Copper material
1	Copper Washer	FP-5152148		Governor cover; 25/64" ID x 9/16" OD x 1/16" Thick; Copper
1	Copper Washer	FP-5152148		High speed spring adj. screw housing; 25/64" ID x 9/16" OD x
				1/16" Thick; Copper
2	Washer	FP-5151487		Variable speed throttle shaft; 3/8" x 11/16" x .033"
1	Governor Seal Ring	FP-5101691		Variable speed throttle shaft; .362" x .113"
1	Solenoid Mounting Gasket	FP-8921033		Air shutoff mounting
1	Solenoid Plunger Assy. Gasket	FP-8927033		Air shutoff between plunger & solenoid
1 1	Governor Hole Gasket	FP-8920399		Control tube to cylinder head
1	Governor Cover Gasket	FP-8920290		Limiting speed
1	Retainer	FP-142583		Operating shaft lever spring; 13/64" Spring
	COOLING SYSTEM			
QTY	WATER PUMP	PART NO.	SIZE	DESCRIPTION
1	Water Pump - Heavy Duty	FP-8928672		Fresh water pump assy.; Thermostat housing not incl.
1	Water Pump Impeller	FP-8927727		Use w/Fresh water pump
1	Water Pump Impeller	FP-5193602		Use w/Raw water pump; Synthetic
1	Water Pump Repair/Rebuild Kit	FP-8928670		Fresh water pump; Incl. bearing, seal, impeller & hub
1	Water Pump Repair/Rebuild Kit	FP-8928671		Fresh water pump; Incl. bearing, seal, impeller, cover & seal ring
1	Water Pump Cover	FP-8923151		Fresh water pump
1 2	Water Pump Mech. Shaft Seal Fresh Water Outlet Elbow Gskt	FP-8927408 FP-8920161		Fresh water pump Right & left bank
1	Fresh Water Outlet Elbow Gskt	FP-8920083		Right bank
i	Fresh Water Pump Gasket	FP-8922132		Pump to front cover
1 1	Rect. or Square Seal	FP-8923152		Fresh water pump cover
1	Pipe Plug	FP-5115214		Water pump housing; 1/2" Square Head
2	Pipe Plug	FP-5142549		Water pump housing; 3/4" - 14 Square Head
1	Shaft & Bearing Assembly	FP-8920144		Fresh water pump
1	Water Pump Hub	FP-8922299		Driven hub
	THERMOSTAT	PART NO.	SIZE	DESCRIPTION
2	Thermostat	FP-3046745		For dividith announced and lineations
1	Thermostat Gasket	FP-8924813		For dual thermostat applications
	ENGINE BLOCK & PARTS			
	GASKETS	PART NO.	SIZE	DESCRIPTION
1	GASKETS Flywheel Housing Gasket	FP-8920091	SIZE	DESCRIPTION
1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit	FP-8920091 FP-5149728	SIZE	
1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer	FP-8920091 FP-5149728 FP-5177773	SIZE	Oil filter bypass plug; 18MM x 1.5MM
1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer	FP-8920091 FP-5149728 FP-5177773 FP-8922349	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug
1 1 1 1 QTY	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO.	SIZE	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION
1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer	FP-8920091 FP-5149728 FP-5177773 FP-8922349	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl.
1 1 1 1 QTY	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO.	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl.
1 1 1 2 QTY 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl.
1 1 1 2 QTY 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts.
1 1 1 2 QTY 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl.
1 1 1 2 2 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When
1 1 1 1 QTY 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF +	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF
1 1 1 2 2 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When
1 1 1 1 QTY 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF +	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use
1 1 1 1 QTY 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF +	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10
1 1 1 1 QTY 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover
1 1 1 1 QTY 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126CB	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather
1 1 1 1 QTY 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126CB FP-PGE4126	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl.
1 1 1 1 QTY 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126CB FP-PGE4126 PGE4126 +	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl.; When depleted use FP-PGE4126
1 1 1 1 QTY 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126CB FP-PGE4126	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals &
1 1 1 1 QTY 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126 FP-8924126 PGE4126 + FP-892412610	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10  Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl. Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl.
1 1 1 1 QTY 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126CB FP-PGE4126 PGE4126 +	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals &
1 1 1 1 QTY 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126CB FP-PGE4126 PGE4126 + FP-892412610 FP-8924126C10	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl. Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl. Incl010" oversized cylinder head gskt.; Rear crankshaft seals
1 1 1 1 QTY 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126 FP-8924126 PGE4126 + FP-892412610	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl. Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl. Incl010" oversized cylinder head gskt.; Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskts. for valve covers w/o breather Incl010" oversized cylinder head gskts., crankshaft seals, &
1 1 1 1 QTY 1 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126 CB FP-B924126 CB FP-B924126 CB FP-8924126 CD FP-892412610 FP-8924126C10	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts.  In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10  Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl. Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl. Incl010" oversized cylinder head gskt.; Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskts. for valve covers w/o breather Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers
1 1 1 1 QTY 1 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126CB FP-PGE4126 PGE4126 + FP-892412610 FP-8924126C10	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts.  In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10  Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl. Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl. Incl010" oversized cylinder head gskt.; Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskts. for valve covers w/o breather Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers
1 1 1 1 QTY 1 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349 PART NO. FP-PGE4127IF10 PGE4127-IF + PGE4127-IF 10 + FP-8924126 FP-8924126 FP-8924126 CB FP-B924126 CB FP-B924126 CB FP-8924126 CD FP-892412610 FP-8924126C10	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts.  In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10  Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl. Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl. Incl010" oversized cylinder head gskt.; Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskts. for valve covers w/o breather Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers; When
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349  PART NO. FP-PGE4127IF  FP-PGE4127IF10  PGE4127-IF +  PGE4127-IF 10 +  FP-8924126 FP-8924126 FP-8924126CB  FP-PGE4126 + FP-892412610  FP-8924126C10  FP-PGE4126C10  PGE4126C 10 +	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl. Incl010" oversized cylinder head gskt.; Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers; When depleted use FP-PGE4126C10
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349  PART NO. FP-PGE4127IF  FP-PGE4127IF10  PGE4127-IF +  PGE4127-IF 10 +  FP-8924126 FP-8924126 FP-8924126 FP-8924126CB  FP-PGE4126 + FP-892412610  FP-8924126C10  PGE4126C 10 +  FP-8924126C10	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl. Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl. Incl010" oversized cylinder head gskt.; Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskts. for valve covers w/o breather Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers; When depleted use FP-PGE4126C10 Incl. bi-directional crank seals
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	GASKETS Flywheel Housing Gasket Oil Pan Gasket Kit Washer Washer GASKET SETS In-Frame Gasket Set In-Frame Gasket Set In-Frame Gasket Set Complete Overhaul Gasket Set	FP-8920091 FP-5149728 FP-5177773 FP-8922349  PART NO. FP-PGE4127IF  FP-PGE4127IF10  PGE4127-IF +  PGE4127-IF 10 +  FP-8924126 FP-8924126 FP-8924126CB  FP-PGE4126 + FP-892412610  FP-8924126C10  FP-PGE4126C10  PGE4126C 10 +	-	Oil filter bypass plug; 18MM x 1.5MM Oil drain plug  DESCRIPTION In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; Incl010" oversized cylinder head gskts. In Frm.; Head gskts. will accomodate 15mm head bolts; Incl. four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF Incl010" oversized cylinder head gskts.; When depleted use FP-PGE4127IF10 Crankshaft seals & valve cover gskts. not incl. Crankshaft seals & valve cover gskts. not incl. Crankshaft seals a valve cover gskts. not incl. Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover gskt. for valve covers w/breather Head gskts. not incl.; When depleted use FP-PGE4126 Incl010" oversized cylinder head gskt.; Crankshaft seals & valve cover gskts. not incl. Incl010" oversized cylinder head gskt.; Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers; When depleted use FP-PGE4126C10

# **Detroit Diesel**



3	Multi-Purpose Engines 8.2, nt.) 8.2L 500 OHV Diesel V8 (Fuel Pir	8.2N Engs. (Fu	el Pin	icher)
(COI	ENGINE BLOCK & PARTS (cont.	•		
QTY	CAM BEARINGS	PART NO.		DESCRIPTION
1 QTY	Cam Set OIL COOLERS & FILTERS	FP-8922110 PART NO.	SIZE	DESCRIPTION
1	Oil Cooler	FP-8547194		4 plate
1	O-Ring Rect. or Square Seal	FP-8920849 FP-8920180		Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick
1	Copper Washer	FP-5152148		Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper
QTY 2	FREEZE PLUGS Pipe Plug	<i>PART NO.</i> FP-5115214	SIZE	DESCRIPTION 1/2" Square Head
1	Pipe Plug	FP-8924380		1/8" - 27
QTY 1	<b>DIPSTICK</b> Dipstick	PART NO. FP-8920462	SIZE	DESCRIPTION 478.0MM to top of cap
	CRANKSHAFT/OIL PUMP			and the state of t
QTY	SEALS - FRONT CRANK	PART NO.	SIZE	DESCRIPTION
1	Oil Seal Redi-Sleeve	FP-8920200		Single lip; Also available as National No. 473476
1	Oil Seal	99250 473476		
	SEALS - REAR CRANK	PART NO.	SIZE	DESCRIPTION
1	Oil Seal Oil Seal	FP-8926761 FP-8923654		Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation
1	Oil Seal	455956H		, , ,
1 OTV	Wear Sleeve MAIN BEARINGS	FP-8923655 PART NO.	SIZE	Rear; Use w/FP-8923654  DESCRIPTION
1	Main Set	FP-5099M	STD	DESCRIPTION
1	Main Set	FP-5099M25MM	.25MM	
4	Main Set Plain Main Brg.	FP-5099M50MM FP-8921712	.50MM STD	Position 1-2-3-5
4	Plain Main Brg.	FP-8924704		Position 1-2-3-5
1	Flanged Main Brg. Flanged Main Brg.	FP-8922948 FP-8924705		Position 4 Position 4
10	Bolt	FP-8922200		Main bearing cap; M12 x 1.75 x 70.0MM
QTY 1	OIL PUMP Bushing	PART NO. FP-8922093	SIZE	DESCRIPTION Oil pump; Unfinished
3	Bolt	FP-11504822		Oil filter adapter; M8 x 1.25 x 30MM
2	O-Ring Oil Pump Intake Gasket	FP-8920849 FP-5126473		Oil filter adapter; .487" ID x .6875" OD Oil pick up tube
4	Rect. or Square Seal	FP-8920180		Oil filter adapter; 18.82MM ID x 3.175MM Thick
1	Oil Pump Drive Bushing Gasket	FP-8927784 FP-5575086		Oil pump; Finished Oil pressure regulator plug
4	Pipe Plug	FP-5115214		1/2" Square Head
1	Oil Pressure Regulator Valve	FP-8926365		
OTV	CYLINDER COMPONENTS LINERS	DADT NO	0175	DECODINATION
8	Repair Sleeve	<i>PART NO.</i> FP-8924716	SIZE	DESCRIPTION
	PISTONS	PART NO.		DESCRIPTION  10.04 O.B. Overde A. White dat O.E. ideal/Faction
8 8	Piston Body w/o Pin Piston Body w/o Pin	FP-8921605 FP-8922234		18.8:1 C.R.; Grade A; White dot OE identification 18.8:1 C.R.; Grade B; Black dot OE identification
8	Piston Body w/o Pin	FP-8922236	STD	18.8:1 C.R.; Grade C; Yellow dot OE identification
8	Piston Body w/o Pin Piston Body w/o Pin	FP-8928520 FP-8922452		18.8:1 C.R.; Grade D; No dot OE identification 18.8:1 C.R.; Grade E
8	Piston Body w/o Pin	FP-8922453	20	18.8:1 C.R.; Grade E
8	Piston Body w/o Pin Piston Kit w/Pin & Retainers	FP-892160530 FP-PK8922452	30 10	18.8:1 C.R.; Grade E
8	Piston Kit w/Pin & Retainers	FP-PK8921605	STD	Also available as Sealed Power No. 2666PN
8 8	Piston Kit w/Pin & Retainers Piston Kit w/Pin & Retainers	FP-PK8922453 FP-PK892160530	20 30	Also available as Sealed Power No. 2666PN 20 Also available as Sealed Power No. 2666PN 30
8	Pin	FP-8925717		
16 8	Piston Pin Retainer Pin Bushing	FP-8922977 FP-8920078		
	CONNECTING RODS &	DADT NO	0:7-	DECODIDATION
<b>QTY</b> 16	BRGS. Con. Rod Bolt	<i>PART NO.</i> FP-8920087	SIZE	<b>DESCRIPTION</b> 7/16" - 20 x 2.58"
8	Rod Pair	FP-8921714	STD	
8	Rod Pair Rod Pair	FP-8924703 FP-892171420	.25MM .50MM	





CONNECTING RODS & BRGS. (cont.)

8 Rod Pair

**CYLINDER COMPONENTS (cont.)** 

PART NO.

FP-892171430

Multi-Purpose Engines 8.2, 8.2N Engs. (Fuel Pincher) 8.2L 500 OHV Diesel V8 (Fuel Pincher), 108mm Bore (cont.)

SIZE DESCRIPTION

.75MM

OTY   DESTON RINGS   PART NO.   SIZE   DESCRIPTION	8	Rod Pair	FP-892171430	.75MM	
8 Fling Set Single Cylinder         FP-8923779         5         2-2.50MM, 1-4.50MM           8 Fling Set Single Cylinder         FP-8923917         10         2-2.50MM, 1-4.50MM           8 Fling Set Single Cylinder         FP-892312139         20         2-2.50MM, 1-4.50MM           1 Premium Set         FP-89217213         STD         2-2.50MM, 1-4.50MM           1 Premium Set         FP-89217213         STD         2-2.50MM, 1-4.50MM           1 Premium Single Cylinder Set         WE-498KC + Sist-30         2-2.50MM, 1-4.50MM           8 Premium Single Cylinder Set         WE-498KC + Sist-30         2-2.50MM, 1-4.50MM           KITS           OTY OVERHAUL KIT         PART NO.         SIZE         DESCRIPTION           I Piston and Ring Kit Wearing         PK1-2666         PK2-2666           PRESIDENCY OVER AUXILIARY OF AUXILIARY OF AUXILIARY OVER AUXILI	QTY	PISTON RINGS	PART NO.	SIZE	DESCRIPTION
8 Ring Set Single Cylinder   FP-8923917   10 2-2.50MM, 1-4.50MM   Ring Set Single Cylinder   FP-8923191   20 2-2.50MM, 1-4.50MM   Ring Set Single Cylinder   FP-892172130   30 2-2.50MM, 1-4.50MM   Ring Set Single Cylinder   FP-8921721830   30 2-2.50MM, 1-4.50MM   Ring Set Single Cylinder   FP-8921721830   30 2-2.50MM, 1-4.50MM   Ring Set	8	Ring Set Single Cylinder	FP-8921721	STD	2-2.50MM, 1-4.50MM
B   Ring Set Single Cylinder   FP-8923191   20 2-2.50MM, 1-4.50MM   FP-89217218   7	8	Ring Set Single Cylinder	FP-8923779	5	2-2.50MM, 1-4.50MM
Bing Set Single Cylinder   FP-892172130   30 2-2.50MM, 1-4.50MM   1 Premium Set   FP-892172158   570 2-2.50MM, 1-4.50MM   2-2.50MM, 1-4.50MM   1 Premium Set   FP-892172158   570 2-2.50MM, 1-4.50MM   30 2-2.50MM, 1-4.50MM, 1-4.50MM   30 2-2.50MM, 1-4.50MM, 1-4.50MM   30 2-2.50MM, 1-4.50MM, 1-4.50MM, 1-4.50MM, 1-4.50MM, 1-4.50MM, 1-4.50MM,	8	Ring Set Single Cylinder	FP-8923917	10	2-2.50MM, 1-4.50MM
1   Premium Set   Premium Set   Premount Single Cylinder Set   Premount Single Cylinder Set   Premount Single Cylinder Set   Premount Set	8	Ring Set Single Cylinder	FP-8923919	20	2-2.50MM, 1-4.50MM
1   Premium Set   Premium Set   Pre-8921721S30   2.2.50MM, 1.4.50MM; When depleted use FP-8921721	8	Ring Set Single Cylinder	FP-892172130	30	2-2.50MM, 1-4.50MM
Remium Single Cylinder Set	1	Premium Set	FP-8921721S	STD	2-2.50MM, 1-4.50MM
KITS OTY OVERHAUL KIT Piston and Ring Kit Piston and Ring Kit Piston and Ring Kit Piston and Ring Kit RV2-2666 PK2-2666	1	Premium Set	FP-8921721S30	30	2-2.50MM, 1-4.50MM
	8	Premium Single Cylinder Set	WE-499KC + Std-30		2-2.50MM, 1-4.50MM; When depleted use FP-8921721
		KITS			
1   Piston and Ring Kit   Pistons & main brgs. not incl.	OTV		DART NO	SIZE	DESCRIPTION
1 Pistons ad Ring Kir WBearing 1 PR-2-2666 1 In-Frame Overhaul Kit PP-82NA PR-9-2NAOH Incl. cam brg. set			_	SIZE	DESCRIPTION
1   In-Frame Overhaul Kit   FP-82NA   Pistons & main brgs, not incl.   Incl. cam brgs, set					
Complete Overhaul Kit   FP-82NAOH   Incl. cam brg, set					Pistons & main bros not incl
Multi-Purpose Engines 8.2T Eng. (Fuel Pincher)					•
### Response of Part No.   CYL. HEAD & PARTS   PART No.		Complete Cromadi in		14: D	
CYL. HEAD & PARTS         PART NO. faSKETS         PART NO. freezence         SIZE DESCRIPTION           2 Valve Cover Gasket Valve Cover Gasket Valve Cover Gasket FP-8920271 1 Head Set FP-8924127 1 Head Set FP-8924127 Incl010° oversized cylinder head gskt.; Valve cover gskt. not incl11 head Set FP-8924127 Incl010° oversized cylinder head gskt.; Valve cover gskt. not incl11 hole valve cover gskts. for valve covers w/o breather incl. 1 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/o breather incl. 9 hole va			IVI	UITI-P	OHV Turbo Dissol V9 (Fuel Dissolar) 100mm Para
GTY			0.2	2L 500	Onvituibo-Diesei vo (Fuei Pilicher), Toomini Bore
2 Valve Cover Gasket					
2   Valve Cover Gasket   FP-8926675   Head Gasket   FP-89233448   FP-89241277   Head Set   FP-892412710   Incl. 0.10" oversized cylinder head gskt.; Valve cover gskt. not incl.   Head Set   FP-8924127V   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127W   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127W   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127W   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127WV   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127WV   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127WV   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve	QTY	GASKETS	PART NO.	SIZE	DESCRIPTION
2   Valve Cover Gasket   FP-8926675   Head Gasket   FP-8923344   FP-89241277   Head Set   FP-89241270   Incl. 0.10" oversized cylinder head gskt.; Valve cover gskt. not incl.   Head Set   FP-8924127V   Incl. 11 hole valve cover gskts. for valve covers w/o breather incl.   Head Set   FP-8924127V   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127W   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127W   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127WV   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127WV   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8924127WV   Incl. 11 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921294   Incl. 9 hole valve cover gskts. for valve covers w/o breather lead Set   FP-8921347   Incl. 9 hole					
1 Head Set FP-8924127V Incl010* oversized cylinder head gskt.; Valve cover gskt. not incl. 1 Head Set FP-8924127VB Incl1 hole valve cover gskts. for valve covers w/o breather incl. 1 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/o breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for valve covers w/breather incl. 9 hole valve cover gskts. for va		Valve Cover Gasket	FP-8926675		w/Breather
Head Set					
Head Set	1	Head Set	FP-8924127		
1 Head Set 1 Multiple Cyl. Head Gskt. Set 1 Breather Seal Ring 1 FP-8924127MV 1 Head Bolt FP-8921294  CTY HEAD BOLTS 2 PART NO. 3 IZE 3 Head Bolt FP-23500463 3 Mi15 x 2.0 x 128MM; 12 Point head 4 Head Bolt FP-23500463 4 Head Bolt FP-23500463 5 Head Bolt Set 5 P-2602522 6 Replacement recommended; 15MM bolts only 7 Replacement recommended; 15MM bolts only 8 Replacement recommended; 15MM bolts only 9 Replacement recommended; 15MM bolts only 9 Replacement recommended; 15MM bolts only 1 Replacement recommended; 15M	1	Head Set	FP-892412710		
1 Head Set FP-8924127VM Incl. 1 hole valve cover giskts. for valve covers w/breather 1 Multiple Cyl. Head Giskt. Set FP-8924127MV Breather Seal Ring FP-8924127MV Breather Seal Ring FP-8924127MV Breather Seal Ring FP-8921294  10 Head Bolt FP-23500463 FP-23500463 M15 x 2.0 x 128MM; 12 Point head M15 x 2.0 x 128MM; 12 Point head M15 x 2.0 x 158MM; 12 Point head M1	1	Head Set	FP-8924127V		Incl. 11 hole valve cover gskts. for valve covers w/o breather
1 Multiple Cyl. Head Gskt. Set         FP-8924127MV Incl. 11 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve covers w/o breather Incl. 9 hole valve cover gskts. for valve kepland fills.	1	Head Set	FP-8924127VB		
1       Multiple Cyl. Head Gskt. Set Breather Seal Ring       FP-8921294       Incl. 9 hole valve cover gskts. for valve covers w/breather Breather Seal Ring         OTY HEAD BOLTS       PART NO.       SIZE       DESCRIPTION         10       Head Bolt       FP-23500462       M15 x 2.0 x 128MM; 12 Point head         10       Head Bolt Set       FP-2602522       Replacement recommended; 15MM bolts only         2       Head Bolt Set       260-2522 +       Replacement recommended; 15MM bolts only; When depleted use FP-2602522         20       Washer       FP-8921876       SIZE       DESCRIPTION         OTY MISCELLANEOUS       PART NO.       PF-5186840       SIZE       DESCRIPTION         A lotake       FP-892137       Breather pipe; 13/16" - 1 1/2" Clamping Range         OTY VALVE       PART NO.       SIZE       DESCRIPTION         8 Intake       FP-8921347       Exhaust Valve Kit       FP-23502068       Valve & valve keepers incl.         8 Intake Valve Kit       FP-23502066       Valve & valve keepers incl.       Valve & valve keepers incl.         16 Valve Guide Cap       FP-5199914       Seal installer; Clear         32 Keeper       FP-23502068       Valve & valve keepers incl.         32 Keeper       VK-1158       1 groove; Square cut key groove; Hardened         <	1				
Breather Seal Ring	1		FP-8924127MVB		
Head Bolt	1		FP-8921294		ŭ
Head Bolt	ОТУ	HEAD BOLTS	PART NO	SIZE	DESCRIPTION
Head Bolt				0	
Pead Bolt Set					
Part No.					
Use FP-2602522					
20	_	Tiodd Boil Got	200 2022 1		
CTY MISCELLANEOUSPART NO.SIZE DESCRIPTION2 Hose ClampFP-5186840Breather pipe; 13/16" - 1 1/2" Clamping RangeQTY VALVEPART NO.SIZE DESCRIPTION8 IntakeFP-89201198 Exhaust Valve KitFP-8921347Valve & valve keepers incl.8 Intake Valve KitFP-23502067Valve & valve keepers incl.16 Valve Guide CapFP-5199914Seal installer; Clear32 KeeperFP-235072381 groove; Square cut key groove32 KeeperVK-1151 groove; Square cut key groove32 KeeperVK-115R1 groove; Square cut key groove; Hardened32 Keeper, BulkVK-115B1 groove; Square cut key groove; Carton of 1000QTY VALVE GUIDEPART NO.SIZE DESCRIPTION16 GuideFP-VG5079TExh. & Int.; .3440" ID, 2.8750" O.A.L.16 GuideFP-VG5079TExh. & Int.; .3440" ID, 2.8750" O.A.L.QTY VALVE SPRINGPART NO.SIZE DESCRIPTION16 SpringFP-8927857Exh. & Int.; .3440" ID, 2.8750" O.A.L.QTY VALVE SPRINGPART NO.SIZE DESCRIPTION16 RotocapFP-8921253Exh. & Int.; Also available as Sealed Power No. VS-1645QTY VALVE MISC.PART NO.SIZE DESCRIPTION16 RotocapFP-8922369Also available as Sealed Power No. RC-155QTI Filler CapFP-5108474Twist Type	20	Washer	FP-8921876		
Process	OTV	MISCELLANEOUS	DART NO	SIZE	
OTTY         VALVE         PART NO.         SIZE         DESCRIPTION           8         Intake         FP-8920119         FP-8921347           8         Exhaust         FP-8921347         Valve & valve keepers incl.           8         Intake Valve Kit         FP-23502067         Valve & valve keepers incl.           16         Valve Guide Cap         FP-5199914         Seal installer; Clear           32         Keeper         FP-23507238         1 groove; Square cut key groove           32         Keeper         VK-115         1 groove; Square cut key groove           32         Keeper         VK-115R         1 groove; Square cut key groove; Hardened           32         Keeper, Bulk         VK-115B         1 groove; Square cut key groove; Carton of 1000           QTY         VALVE GUIDE         PART NO.         SIZE         DESCRIPTION           16         Guide         FP-VG5079T         Exh. & Int.; 3440" ID, 2.8750" O.A.L.           QTY         VALVE SPRING         PART NO.         Exh. & Int.; 3440" ID, 2.8750" O.A.L.           QTY         VALVE SPRING         PART NO.         Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY         PUSH RODS         PART NO.         Exh. & Int.; Also available as Sealed Power No. RC-155      <				OIZL	
8         Intake         FP-8920119           8         Exhaust         FP-8921347           8         Exhaust Valve Kit         FP-23502068         Valve & valve keepers incl.           16         Intake Valve Kit         FP-23502068         Valve & valve keepers incl.           16         Valve Guide Cap         FP-5199914         Seal installer; Clear           32         Keeper         FP-23507238         1 groove; Square cut key groove           32         Keeper         VK-115         1 groove; Square cut key groove; Hardened           32         Keeper, Bulk         VK-115B         1 groove; Square cut key groove; Carton of 1000           QTY         VALVE GUIDE         PART NO.         SIZE         DESCRIPTION           16         Guide         FP-VG5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY         VALVE SPRING         PART NO.         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY         VALVE SPRING         PART NO.         Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY         PUSH RODS         PART NO.         Exh. & Int.; Also available as Sealed Power No. RC-155           QTY         VALVE MISC.         PART NO.         SIZE         DESCRIPTION           16         Rotocap		-		SIZE	
8         Exhaust Exhaust Valve Kit         FP-8921347           8         Exhaust Valve Kit         FP-23502067         Valve & valve keepers incl.           16         Valve Guide Cap         FP-5199914         Seal installer; Clear           32         Keeper         FP-23507238         1 groove; Square cut key groove           32         Keeper         VK-115         1 groove; Square cut key groove           32         Keeper         VK-115R         1 groove; Square cut key groove; Hardened           32         Keeper, Bulk         VK-115B         1 groove; Square cut key groove; Carton of 1000           QTY VALVE GUIDE         PART NO.         SIZE         DESCRIPTION           16         Guide         FP-VG5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY VALVE SPRING         PART NO.         SIZE         DESCRIPTION           16         Spring         FP-8927857         Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY PUSH RODS         PART NO.         SIZE         DESCRIPTION           8         Push Rod Spring         FP-8921253         SIZE         DESCRIPTION           16         Rotocap         FP-8922369         Also available as Sealed Power No. RC-155         Twist Type			_	SIZE	DESCRIF HUN
8 Exhaust Valve Kit Intake Valve Keepers incl.  Valve & valve keepers incl.  Valve Gular  1 groove; Square cut key groove  1 groove; Square cut key groove; Hardened  1 groove; Square cut key groove; Carton of 1000  CTY VALVE GUIDE  1 groove; Square cut key groove; Carton of 1000  Exh. & Int.; .3440" ID, 2.8750" O.A.L.  CTY VALVE SPRING  Spring  PART NO.  FP-8927857  Exh. & Int.; Also available as Sealed Power No. VS-1645  Exh. & Int.; Also available as Sealed Power No. RC-155  Twist Type  SIZE DESCRIPTION  Also available as Sealed Power No. RC-155  Twist Type					
Intake Valve Kit					Valva & valva koopars incl
16         Valve Guide Cap         FP-5199914         Seal installer; Clear           32         Keeper         FP-23507238         1 groove; Square cut key groove           32         Keeper         VK-115         1 groove; Square cut key groove; Hardened           32         Keeper, Bulk         VK-115B         1 groove; Square cut key groove; Carton of 1000           QTY         VALVE GUIDE         PART NO.         SIZE         DESCRIPTION           16         Guide         FP-VG5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           16         Guide         VG-5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY         VALVE SPRING         PART NO.         SIZE         DESCRIPTION           16         Spring         FP-8927857         Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY         PUSH RODS         PART NO.         SIZE         DESCRIPTION           8         Push Rod Spring         FP-8921253         SIZE         DESCRIPTION           16         Rotocap         FP-8922369         Also available as Sealed Power No. RC-155           0il Filler Cap         FP-5108474         Twist Type					
32         Keeper         FP-23507238         1 groove; Square cut key groove           32         Keeper         VK-115         1 groove; Square cut key groove           32         Keeper         VK-115R         1 groove; Square cut key groove; Hardened           32         Keeper, Bulk         VK-115B         1 groove; Square cut key groove; Carton of 1000           QTY         VALVE GUIDE         PART NO.         SIZE         DESCRIPTION           16         Guide         FP-VG5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY         VALVE SPRING         PART NO.         SIZE         DESCRIPTION           16         Spring         FP-8927857         Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY         PUSH RODS         PART NO.         SIZE         DESCRIPTION           8         Push Rod Spring         FP-8921253         SIZE         DESCRIPTION           16         Rotocap         FP-8922369         Also available as Sealed Power No. RC-155           0         Oil Filler Cap         FP-5108474         Twist Type	_		ED =400044		•
32         Keeper         VK-115         1 groove; Square cut key groove           32         Keeper         VK-115R         1 groove; Square cut key groove; Hardened           32         Keeper, Bulk         VK-115B         1 groove; Square cut key groove; Carton of 1000           QTY         VALVE GUIDE         PART NO.         SIZE         DESCRIPTION           16         Guide         FP-VG5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY         VALVE SPRING         PART NO.         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           16         Spring         FP-8927857         Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY         PUSH RODS         PART NO.         SIZE         DESCRIPTION           8         Push Rod Spring         FP-8921253         SIZE         DESCRIPTION           16         Rotocap         FP-8922369         Also available as Sealed Power No. RC-155           16         Rotocap         FP-5108474         Twist Type		•			
32         Keeper Keeper, Bulk         VK-115R VK-115B         1 groove; Square cut key groove; Hardened 1 groove; Square cut key groove; Carton of 1000           QTY VALVE GUIDE 16 Guide FP-VG5079T 16 Guide PART NO. To Guide Provide PART NO. To Guide Provide PART NO. To Guide Provide PART NO. To Guide PART NO. To Guide Provide					
32         Keeper, Bulk         VK-115B         1 groove; Square cut key groove; Carton of 1000           QTY VALVE GUIDE         PART NO.         SIZE         DESCRIPTION           16         Guide         FP-VG5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           16         Guide         VG-5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY VALVE SPRING         PART NO.         SIZE         DESCRIPTION           16         Spring         FP-8927857         Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY PUSH RODS         PART NO.         SIZE         DESCRIPTION           8         Push Rod Spring         FP-8921253         DESCRIPTION           QTY VALVE MISC.         PART NO.         SIZE         DESCRIPTION           16         Rotocap         FP-8922369         Also available as Sealed Power No. RC-155           2         Oil Filler Cap         FP-5108474         Twist Type		•			1 groove, Square out key groove: Herdened
QTY VALVE GUIDE         PART NO.         SIZE DESCRIPTION           16 Guide         FP-VG5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           16 Guide         VG-5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY VALVE SPRING         PART NO.         SIZE DESCRIPTION           16 Spring         FP-8927857         Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY PUSH RODS         PART NO.         SIZE DESCRIPTION           8 Push Rod Spring         FP-8921253           QTY VALVE MISC.         PART NO.         SIZE DESCRIPTION           16 Rotocap         FP-8922369         Also available as Sealed Power No. RC-155           2 Oil Filler Cap         FP-5108474         Twist Type					
16 Guide Guide         FP-VG5079T Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY VALVE SPRING 16 Spring         PART NO. FP-8927857         SIZE DESCRIPTION Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY PUSH RODS Push Rod Spring         PART NO. Push Rod Spring         SIZE DESCRIPTION           QTY VALVE MISC. 16 Rotocap Oil FP-8922369 Oil Filler Cap         PART NO. FP-8922369 FP-5108474         SIZE DESCRIPTION Also available as Sealed Power No. RC-155 Twist Type		•			
16         Guide         VG-5079T         Exh. & Int.; .3440" ID, 2.8750" O.A.L.           QTY VALVE SPRING 16         PART NO. Spring         SIZE DESCRIPTION Exh. & Int.; Also available as Sealed Power No. VS-1645           QTY PUSH RODS Push Rod Spring         PART NO. FP-8921253         SIZE DESCRIPTION           QTY VALVE MISC. 16         PART NO. Rotocap PR-8922369 Oil Filler Cap         SIZE DESCRIPTION Also available as Sealed Power No. RC-155 Twist Type				SIZE	
QTY 16VALVE SPRING SpringPART NO. FP-8927857SIZE Exh. & Int.; Also available as Sealed Power No. VS-1645QTY 8PUSH RODS Push Rod SpringPART NO. FP-8921253SIZEDESCRIPTIONQTY 8VALVE MISC.PART NO. FP-8922369 Oil Filler CapSIZEDESCRIPTION16 2Rotocap Oil Filler CapFP-8922369 FP-5108474Also available as Sealed Power No. RC-155 Twist Type					
16SpringFP-8927857Exh. & Int.; Also available as Sealed Power No. VS-1645QTYPUSH RODS 8PART NO. Push Rod SpringSIZEDESCRIPTIONQTYVALVE MISC.PART NO. FP-8922369 2SIZEDESCRIPTION16RotocapFP-8922369 FP-5108474Also available as Sealed Power No. RC-155 Twist Type	16	Guide	VG-5079T		Exh. & Int.; .3440" ID, 2.8750" O.A.L.
QTY 8PUSH RODS Push Rod SpringPART NO. FP-8921253SIZEDESCRIPTIONQTY 16 2PART NO. Rotocap Oil Filler CapSIZEDESCRIPTION Also available as Sealed Power No. RC-155 Twist Type			_	SIZE	
8Push Rod SpringFP-8921253QTYVALVE MISC.PART NO.SIZEDESCRIPTION16RotocapFP-8922369Also available as Sealed Power No. RC-1552Oil Filler CapFP-5108474Twist Type	16	Spring	FP-8927857		Exh. & Int.; Also available as Sealed Power No. VS-1645
8Push Rod SpringFP-8921253QTYVALVE MISC.PART NO.SIZEDESCRIPTION16RotocapFP-8922369Also available as Sealed Power No. RC-1552Oil Filler CapFP-5108474Twist Type	QTY	PUSH RODS	PART NO.	SIZE	DESCRIPTION
16RotocapFP-8922369Also available as Sealed Power No. RC-1552Oil Filler CapFP-5108474Twist Type					-
16RotocapFP-8922369Also available as Sealed Power No. RC-1552Oil Filler CapFP-5108474Twist Type	QTY	VALVE MISC.	PART NO.	SIZE	DESCRIPTION
2 Oil Filler Cap FP-5108474 Twist Type					
(continued on next page)		Tr		d on nov	

# **Detroit Diesel**



4 (con	Multi-Purpose Engines 8.2T nt.) 8.2L 500 OHV Turbo-Diesel V8 (F			
	CYL. HEAD & PARTS (cont.)	,,		
QTY	VALVE SEAL	PART NO.	SIZE	DESCRIPTION
16	Valve Stem Seal	FP-23500480		
QTY 8	ROCKER PARTS Rocker Shaft	<i>PART NO.</i> FP-8920478	SIZE	DESCRIPTION  Includes plug: Also available as Scaled Power No. PS 657
8	Expansion Plug	FP-5151272		Includes plug; Also available as Sealed Power No. RS-657 Rocker shaft
8	Cam Follower Roller Set	FP-8923814		Injector; Incl. pin & roller
8	Cam Follower Roller Set	FP-8923813		Valve; Incl. pin & roller
	ELECTRICAL			
QTY 1	ELECTRICAL Starting Motor Gasket	<i>PART NO.</i> FP-5130995	SIZE	DESCRIPTION
	INT & EXH MANIFOLDS			
	INT. & EXH. MANIFOLDS	PART NO.	SIZE	DESCRIPTION
2	Exhaust Manifold Gasket	FP-8921817		Front
1	Cyl. Block Valley Cover Gskt. Cyl. Block Valley Cover Gskt.	FP-8920220 FP-8920246		Front Rear
2	Extruded Seal	FP-8920219		Side Valley Pan
2	Pipe Plug	FP-23511574		Exh. outlet adapter; 1/2" pipe thread; w/1" Square head
2	Pipe Plug	FP-8923847		Exh. outlet adapter; 1/4" x 18 NPTF; Square head
<b>QTY</b> 2	AIR INTAKE Air Intake Housing Gasket	<i>PART NO.</i> FP-8920247	SIZE	DESCRIPTION
QTY	AIR CLEANER	PART NO.	SIZE	DESCRIPTION
1	Air Cleaner Adapter Screen	FP-8920732		Mounting adapter
1 2	Pipe Plug Air Cleaner Mtg. Adapter Gskt	FP-5142549 FP-5127247		Mounting adapter; 3/4" - 14 Square Head
	CAMSHAFT GROUP			
<u> </u>	TIMING COVER	PART NO.	SIZE	DESCRIPTION
1	Crankshaft Front Cover Gasket	FP-8920273		
1	Crankshaft Front Cover Gasket	FP-8923090		Cover to oil pan
	FUEL SYSTEM & PARTS			
QTY 8	FUEL INJECTION Fuel Injector Seal Ring	PART NO. FP-8920390	SIZE	DESCRIPTION
8	Injector Hole Tube Kit	FP-8925981A		
8	Injector Hole Tube Kit	FP-5149724		Injector tube seal ring incl.
8	Fuel Injector	FP-5229850		4A53
8	Fuel Injector Repair Kit Bracket	FP-5229930		Control tube
8	Fuel Injection Valve Cage	FP-8920350 FP-5229726		Spring cage
8	Fuel Injection Spring Seat	FP-5228766		Valve spring seat
8	Fuel Injector Valve Spring	FP-5228596		
8	Fuel Injector Check Valve	FP-5228694		4450 0 4D55 Assembly
8 8	Injector Plunger & Bushing Fuel Injector Tip Kit	FP-5229840 FP-5229727		4A53 & 4B55; Assembly 4A53
8	Fuel Injector Tip Kit	FP-5229846		4A33 4C65
8	Nut	FP-5229720		Fuel injector valve
8	Fuel Injector Valve Kit	FP-5228769		
	FUEL FILTERS & PUMP	PART NO.	SIZE	DESCRIPTION
1	Mechanical Fuel Pump Mechanical Fuel Pump	FP-5199735 FP-5199560		Left hand; High output; w/.375" Gear Left hand; Std. output; w/.250" Gear
1	Mechanical Fuel Pump	FP-5199561		Right hand
1	Mechanical Fuel Pump	FP-5199734		Right hand; High output
1	Fuel Pump Valve Plug Gasket	FP-5161003		Division (2001) Longathy Old Output
1	Fuel Pump Shaft & Gear Fuel Pump Valve	FP-5181747 FP-5174973		Driven; .838" Length; Std. Output
1	Fuel Pump Coupling	FP-5174973 FP-5154216		
1	Fuel Pump Gear	FP-5174975		.294" Width; Std. Output
1	Fuel Pump Drive Shaft	FP-5178700		Drive; 3.09" Length
1	Fuel Pump Relief Valve Spring Fuel Pump Repair Part	FP-5184530 FP-5174971		Fuel pump valve; .500" x 20 plug
1	Fuel Pump Drive Adapter Gskt.	FP-5174971 FP-5150193		Fuel pump to block
1	Oil Seal	FP-23512243		Fuel pump
1	Fuel Pump Repair Kit	FP-5149599		w/High output fuel pump; High output; Short Shaft
1	Fuel Pump Repair Kit	FP-5195078		w/Std. fuel pump; Std. output
2	Pipe Plug Pipe Plug	FP-5121182 FP-8923847		Fuel filter cover; 1/4" - 18; Hex head Fuel filter cover; 1/4" x 18 NPTF; Square head
2	Pipe Plug	FP-8924380		Fuel pump drain; 1/8" - 27
	1		ed on nex	





Multi-Purpose Engines 8.2T Eng. (Fuel Pincher) 4 8.2L 500 OHV Turbo-Diesel V8 (Fuel Pincher), 108mm Bore (cont.)

			0.ZL 300	OHV Turbo-Diesei v8 (Fuel Pincher), Tu8mm Bore (cont.)
	FUEL SYSTEM & PARTS (cont.)			
	FUEL FILTERS & PUMP (cont.)	PART NO.	SIZE	DESCRIPTION
1	Plastic Cap	FP-5136240	SIZE	Fuel pump drain; .250" Dia.
2	Plastic Cap	FP-5136241		Fuel pump drain; .780" Dia., 3/8" NPTF
1	Dowel Pin	FP-103709		Fuel pump valve spring; 5/32" x 1" straight
2	Dowel Pin	FP-141195		Fuel pump body; .250" x .625"
1	Ball Brg.	FP-147481		Drive gear; .125" Dia. Steel
1	Bushing	FP-5198558		Fuel pump cover; 3/8" x 1/4"
1	Bushing	FP-5198558		Fuel pump shaft; 3/8" x 1/4"
$\vdash$	TURBOCHARGER		SIZE	DESCRIPTION
QTY 1	Hose	PART NO.	SIZE	Air inlet connection; 3.50" I.D. x 2.750" Length
2	Hose Clamp	FP-5162888 FP-9139809		Air inlet connection, 3.50 1.D. x 2.750 Length Air outlet hose; 2 1/16" - 3"
1	Turbo Ring	FP-5198936		Intermediate housing
2	Turbo Bushing	FP-5149540		Rotor shaft
1	O-Ring	FP-8920203		Air inlet elbow
1	Sealing Ring	FP-8923184		Mounting hole cover
ı				Thousand Their Cover
	GOVERNOR			
QTY	GOVERNOR	PART NO.	SIZE	DESCRIPTION
1	Retaining Ring	FP-9411502		Governor weight shaft end brg.
1	Governor Spring	FP-5122165		Low speed; w/One Blue Stripe
1	Governor Spring	FP-5183704		Low speed; w/Two Yellow Stripes
1	Governor Low Speed Spring Cap	FP-5103975		
1	Screw	FP-5102270		Low speed spring adjusting; .250" - 28 x 1.00"
1	O-Ring	FP-5176557		Variable speed spring lever shaft packing; .477" ID x .113" Thick
2	Cylindrical Brg.	FP-148402		Variable speed spring lever shaft; .500" x .500" Dia.
4	Governor Valve Spring Shim	FP-5136590		Variable speed; .010"
2	Governor Valve Spring Shim	FP-5136591		Variable speed; .078"
1	Pin	FP-457008		Variable speed shaft pin; 3/16" x 1 1/2"
2	Governor Retainer	FP-5178581		Variable speed throttle shaft; Lower Variable speed throttle shaft; Upper
1	Governor Retainer Ball Brg.	FP-5144178 FP-9437108		Gov. Weight Riser Thrust Brg.; .354" Width
	Ball Brg.	FP-23506244		Governor weight shaft end brg.
	Ball Brg.	FP-9431894		Upper operating shaft
	Governor Riser	FP-5117193		1.062" Length
1	Governor Spring Cover Gasket	FP-8922593		High speed
1	Nut	FP-5174286		Governor buffer screw; 3/8" - 24 UNF
1	Governor to Cyl. Block Gasket	FP-8920308		21011
1	Governor Gasket	FP-5180539		Variable speed cover; Copper material
1	Copper Washer	FP-5152148		Governor cover; 25/64" ID x 9/16" OD x 1/16" Thick; Copper
1	Copper Washer	FP-5152148		High speed spring adj. screw housing; 25/64" ID x 9/16" OD x
	• •			1/16" Thick; Copper
2	Washer	FP-5151487		Variable speed throttle shaft; 3/8" x 11/16" x .033"
1	Governor Seal Ring	FP-5101691		Variable speed throttle shaft; .362" x .113"
1	Solenoid Mounting Gasket	FP-8921033		Air shutoff mounting
1	Solenoid Plunger Assy. Gasket	FP-8927033		Air shutoff between plunger & solenoid
1	Governor Hole Gasket	FP-8920399		Control tube to cylinder head
1	Governor Cover Gasket	FP-8920290		Limiting speed
1	Retainer	FP-142583		Operating shaft lever pin; 13/64" Spring
	COOLING SYSTEM			
<u> </u>	WATER PUMP	PART NO.	SIZE	DESCRIPTION
1	Water Pump - Heavy Duty	FP-8928672	JIZE	Fresh water pump assy.; Thermostat housing not incl.
	Water Pump Impeller	FP-8927727		Use w/Fresh water pump
	Water Pump Impeller	FP-5193602		Use w/Raw water pump; Synthetic
	Water Pump Repair/Rebuild Kit	FP-8928670		Fresh water pump; Incl. bearing, seal, impeller & hub
	Water Pump Repair/Rebuild Kit	FP-8928671		Fresh water pump; Incl. bearing, seal, impeller, cover & seal ring
1	Water Pump Cover	FP-8923151		Fresh water pump
1	Water Pump Mech. Shaft Seal	FP-8927408		Fresh water pump
2	Fresh Water Outlet Elbow Gskt	FP-8920161		Right & left bank
1	Fresh Water Outlet Elbow Gskt	FP-8920083		Right bank
1	Fresh Water Pump Gasket	FP-8922132		Pump to front cover
1	Rect. or Square Seal	FP-8923152		Fresh water pump cover
1	Pipe Plug	FP-5115214		Water pump housing; 1/2" Square Head
2	Pipe Plug	FP-5142549		Water pump housing; 3/4" - 14 Square Head
1	Shaft & Bearing Assembly	FP-8920144		Fresh water pump
1	Water Pump Hub	FP-8922299		Driven hub
QTY	THERMOSTAT	PART NO.	SIZE	DESCRIPTION
2	Thermostat	FP-3046745		
1	Thermostat Gasket	FP-8924813		For dual thermostat applications
			nued on next	

# **Detroit Diesel**



4 Multi-Purpose Engines 8.2T Eng. (Fuel Pincher) (cont.) 8.2L 500 OHV Turbo-Diesel V8 (Fuel Pincher), 108mm Bore

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	<b>ENGINE BLOCK &amp; PARTS</b>			
OTV	ı	DARTNO	CIZE	DECORIDATION
	GASKETS  The selection of Contents	PART NO.	SIZE	DESCRIPTION
1	Flywheel Housing Gasket	FP-8920091		
1	Oil Pan Gasket Kit	FP-5149728		O'l Charles and a down a 5MM
1	Washer	FP-5177773		Oil filter bypass plug; 18MM x 1.5MM
1	Washer	FP-8922349		Oil drain plug
QTY	GASKET SETS	PART NO.	SIZE	DESCRIPTION
1	In-Frame Gasket Set	FP-PGE4127IF		In Frm.; Head gskts. will accomodate 15mm head bolts; Incl.
				four-piece oil pan gskt.; Premium valve stem seals incl.
1	In-Frame Gasket Set	FP-PGE4127IF10		In Frm.; Head gskts. will accomodate 15mm head bolts; Incl.
				four-piece oil pan gskt.; Premium valve stem seals incl.; Incl.
4	In-Frame Gasket Set	DOE4407 IF .		.010" oversized cylinder head gskts.
1	In-Frame Gasket Set	PGE4127-IF +		In Frm.; Head gskts. will accomodate 15mm head bolts; Incl.
				four-piece oil pan gskt.; Premium valve stem seals incl.; When depleted use FP-PGE4127IF
1	In-Frame Gasket Set	PGE4127-IF +		In Frm.; Head gskts. will accomodate 15mm head bolts; Incl.
'	III I Tame dasket bet	1 QL4127-11 +		four-piece oil pan gskt.; Premium valve stem seals incl.; When
				depleted use FP-PGE4127IF
1	In-Frame Gasket Set	PGE4127-IF 10 +		Incl010" oversized cylinder head gskts.; When depleted use
				FP-PGE4127IF10
1	Complete Overhaul Gasket Set	FP-8924126		Crankshaft seals & valve cover gskts. not incl.
1	Complete Overhaul Gasket Set	FP-8924126		Crankshaft seals & valve cover gskts. not incl.
1	Complete Overhaul Gasket Set	FP-8924126CB		Crankshaft seals not incl.; Incl. front seal & 9 hole valve cover
				gskt. for valve covers w/breather
1	Complete Overhaul Gasket Set	FP-PGE4126		Head gskts. not incl.
1	Complete Overhaul Gasket Set	PGE4126 +		Head gskts. not incl.; When depleted use FP-PGE4126
1	Complete Overhaul Gasket Set	FP-892412610		Incl010" oversized cylinder head gskt.; Crankshaft seals &
١.,		ED 0004400040		valve cover gskts. not incl.
1	Complete Overhaul Gasket Set	FP-8924126C10		Incl010" oversized cylinder head gskt.; Rear crankshaft seals
				not incl.; Incl. front seal & 11 hole valve cover gskts. for valve covers w/o breather
4	Complete Overhaud Cooket Cet	ED DCE4106C10		
1	Complete Overhaul Gasket Set	FP-PGE4126C10		Incl010" oversized cylinder head gskts., crankshaft seals, & valve cover gskts. for valve covers w/o breathers
1	Complete Overhaul Gasket Set	PGE4126C 10 +		Incl010" oversized cylinder head gskts., crankshaft seals, &
'	Complete Overnaul dasket det	FGE41200 10 T		valve cover gskts. for valve covers w/o breathers; When
				depleted use FP-PGE4126C10
1 .	Commission Overhaud Contrat Cot			
1 1	L Complete Overnaul Gasket Set	FP-8924126WS		Incl. bi-directional crank seals
1	Complete Overhaul Gasket Set Complete Overhaul Gasket Set	FP-8924126WS FP-8924126C		Incl. bi-directional crank seals  Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve
				Incl. bi-directional crank seals  Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather
1	Complete Overhaul Gasket Set	FP-8924126C	SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather
1			<b>SIZE</b> STD	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve
1 QTY 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set	FP-8924126C  PART NO. FP-8922110	STD	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION
QTY 1 QTY	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS	FP-8924126C  PART NO. FP-8922110  PART NO.	_	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION
1 QTY 1 QTY 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194	STD	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate
1 QTY 1 QTY 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring	PART NO. FP-8922110 PART NO. FP-8547194 FP-8920849	STD	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD
1 QTY 1 QTY 1 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal	P-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180	STD	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick
1 QTY 1 QTY 1 1 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer	P-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148	SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper
1 QTY 1 1 1 1 1 1 QTY	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS	P-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO.	STD	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION
1 QTY 1 QTY 1 1 1 1 1 QTY 2	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug	P-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214	SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head
1 QTY 1 QTY 1 1 1 1 QTY 2 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380	SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION  1/2" Square Head 1/8" - 27
1 QTY 1 1 1 1 1 QTY 2 1 QTY	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK	P-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO.	SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION
1 QTY 1 QTY 1 1 1 1 QTY 2 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380	SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION  1/2" Square Head 1/8" - 27
1 QTY 1 1 1 1 1 QTY 2 1 QTY	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK	P-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO.	SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION
1 QTY 1 QTY 1 1 1 1 QTY 2 1 QTY 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462	SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap
1 QTY 1 QTY 1 1 1 1 QTY 2 1 QTY 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO.	SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap
1 QTY 1 1 1 1 QTY 2 1 QTY 1 1 QTY 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920400	SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap
1 QTY 1 QTY 1 1 1 1 QTY 2 1 QTY 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250	SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap
1 QTY 1 1 1 1 1 2 1 QTY 1 QTY 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920000 99250 473476	SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476
1 QTY 1 1 1 1 1 2 1 QTY 1 QTY 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO.	SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476
1 QTY 1 1 1 QTY 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal  SEALS - REAR CRANK Oil Seal	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO. FP-8926761	SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation
1 QTY 1 1 1 1 1 2 1 QTY 1 2 1 QTY 1 1 1 1 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal  SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO. FP-8926761 FP-8923654	SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476
1 QTY 1 1 1 1 1 1 QTY 2 1 QTY 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal Oil Seal Oil Seal Oil Seal	P-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO. FP-8926761 FP-8923654 455956H	SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation
1 QTY 1 1 1 1 1 1 QTY 2 1 QTY 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug  DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal Oil Seal Wear Sleeve	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO. FP-8926761 FP-8923654 455956H FP-8923655	SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation Rear; Use w/FP-8923654
1 QTY 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal Wear Sleeve  MAIN BEARINGS	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO. FP-8926761 FP-8923654 455956H FP-8923655  PART NO.	SIZE SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation
1 QTY 1 1 1 1 1 QTY 1 1 1 1 QTY 1 1 1 1 1 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal Oil Seal Oil Seal Oil Seal Wear Sleeve  MAIN BEARINGS Main Set	PART NO. FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO. FP-892654 455956H FP-8923655  PART NO. FP-5099M	SIZE SIZE SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation Rear; Use w/FP-8923654
1 QTY 1 1 1 1 1 QTY 1 1 1 1 1 1 1 1 1 1 1 1 1	Complete Overhaul Gasket Set  CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug  DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal Wear Sleeve  MAIN BEARINGS Main Set Main Set	PART NO. FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO. FP-892654 455956H FP-8923655  PART NO. FP-5099M FP-5099M25MM	SIZE SIZE SIZE SIZE SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation Rear; Use w/FP-8923654
1 QTY 1 1 1 1 1 QTY 1 1 1 1 1 QTY 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug Pipe Plug DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal Wear Sleeve  MAIN BEARINGS Main Set Main Set Main Set Main Set	PART NO. FP-8920110  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-8920200 99250 473476  PART NO. FP-8926761 FP-8923654 455956H FP-8923655  PART NO. FP-89298050 P-89298050 P-89298050 P-89298050 P-89298050 P-89298050 P-89298050 P-89298050 P-5099M FP-5099M50MM	SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation Rear; Use w/FP-8923654  DESCRIPTION
1 QTY 1 1 1 1 1 2 1 QTY 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug Pipe Plug  DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal Oil Seal Wear Sleeve  MAIN BEARINGS Main Set Main Set Main Set Main Set Main Set Main Set Plain Main Brg.	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-892000 99250 473476  PART NO. FP-8923654 455956H FP-8923655 PART NO. FP-5099M FP-5099M50MM FP-5099M50MM FP-5099M50MM FP-8921712	SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation Rear; Use w/FP-8923654  DESCRIPTION  Position 1-2-3-5
1 QTY 1 1 1 1 1 2 1 QTY 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug Pipe Plug  DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal Oil Seal Wear Sleeve  MAIN BEARINGS Main Set Main Set Main Set Plain Main Brg. Plain Main Brg.	P-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-892000 99250 473476  PART NO. FP-8926761 FP-8923654 455956H FP-8923655 PART NO. FP-5099M FP-5099M FP-5099M FP-5099M50MM FP-8921712 FP-8924704	SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation Rear; Use w/FP-8923654  DESCRIPTION  Position 1-2-3-5 Position 1-2-3-5
1 QTY 1 1 1 1 1 2 1 QTY 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1	CAM BEARINGS Cam Set  OIL COOLERS & FILTERS Oil Cooler O-Ring Rect. or Square Seal Copper Washer  FREEZE PLUGS Pipe Plug Pipe Plug Pipe Plug  DIPSTICK Dipstick  CRANKSHAFT/OIL PUMP  SEALS - FRONT CRANK Oil Seal Redi-Sleeve Oil Seal SEALS - REAR CRANK Oil Seal Oil Seal Oil Seal Oil Seal Wear Sleeve  MAIN BEARINGS Main Set Main Set Main Set Main Set Main Set Main Set Plain Main Brg.	FP-8924126C  PART NO. FP-8922110  PART NO. FP-8547194 FP-8920849 FP-8920180 FP-5152148  PART NO. FP-5115214 FP-8924380  PART NO. FP-8920462  PART NO. FP-892000 99250 473476  PART NO. FP-8923654 455956H FP-8923655 PART NO. FP-5099M FP-5099M50MM FP-5099M50MM FP-5099M50MM FP-8921712	SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE	Rear crankshaft seals not incl.; Incl. front seal & 11 hole valve cover gskt. for valve covers w/o breather  DESCRIPTION  DESCRIPTION  4 plate Adapter to block; .487" ID x .6875" OD Adapter to block; 18.82MM ID x 3.175MM Thick Adapter; 25/64" ID x 9/16" OD x 1/16" Thick; Copper  DESCRIPTION 1/2" Square Head 1/8" - 27  DESCRIPTION 478.0MM to top of cap  DESCRIPTION Single lip; Also available as National No. 473476  DESCRIPTION Std.; Single lip; R.H. Rotation Use w/FP-8923655; O.S.; Single lip; R.H. Rotation Rear; Use w/FP-8923654  DESCRIPTION  Position 1-2-3-5





Multi-Purpose Engines 8.2T Eng. (Fuel Pincher) 4
8 21 500 OHV Turbo-Diesel V8 (Fuel Pincher) 108mm Bore (cont

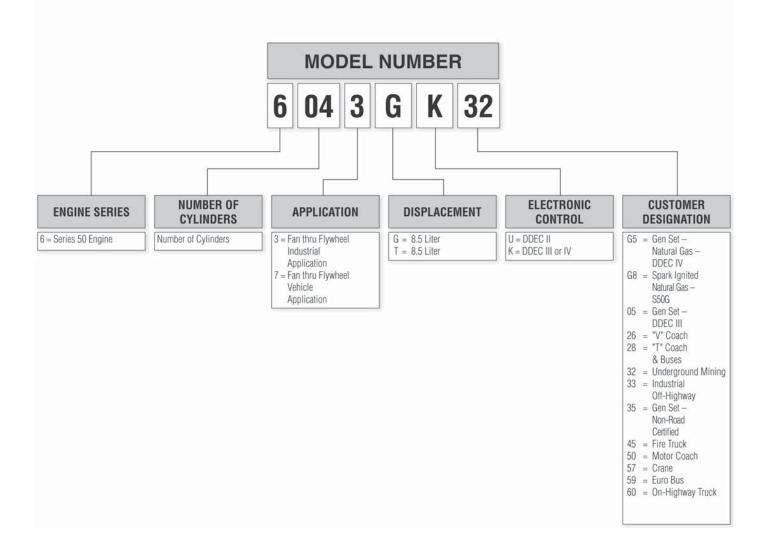
	8.2L 500 OHV Turbo-Diesel V8 (Fuel Pincher), 108mm Bore (cont.)						
	CRANKSHAFT/OIL PUMP (cont.)						
<b>QTY</b> 10	MAIN BEARINGS (cont.) Bolt	PART NO. FP-8922200	SIZE	<b>DESCRIPTION</b> Main bearing cap; M12 x 1.75 x 70.0MM			
QTY 1 3 2 1 4 1 1 1 1	OIL PUMP Bushing Bolt O-Ring Oil Pump Intake Gasket Rect. or Square Seal Oil Pump Drive Bushing Gasket Pipe Plug Oil Pressure Regulator Valve Oil Pressure Relieve Plug	PART NO. FP-8922093 FP-11504822 FP-8920849 FP-5126473 FP-8920180 FP-8927784 FP-5575086 FP-5115214 FP-8926365 FP-8926364	SIZE	DESCRIPTION Oil pump; Unfinished Oil filter adapter; M8 x 1.25 x 30MM Oil filter adapter; .487" ID x .6875" OD Oil pick up tube Oil filter adapter; 18.82MM ID x 3.175MM Thick Oil pump; Finished Oil pressure regulator plug Oil filter adapter; 1/2" Square Head			
	CYLINDER COMPONENTS						
<b>QTY</b> 8	LINERS Repair Sleeve	PART NO. FP-8924716	SIZE	DESCRIPTION			
8 8 8 8 8 8 8 8 1 1 8 16 8	PISTONS Piston Body w/o Pin Piston Kit w/Pin & Retainers Piston Kit w/Ring Set Piston Kit w/Rings & Bearings Pin Piston Pin Retainer Pin Bushing	PART NO. FP-8925818 FP-8925819 FP-8925820 FP-8925816 FP-8925817 FP-892581830 FP-PK8925818 FP-PK8925816 FP-PK8925817 FP-PK8925817 FP-PK892581830 FP-PK12667 FP-PK22667 FP-8922977 FP-8922977 FP-8920078	STD STD STD STD 10 20	DESCRIPTION  17.4:1 C.R.; Grade A; White dot OE identification 17.4:1 C.R.; Grade B; Black dot OE identification 17.4:1 C.R.; Grade C; Yellow dot OE identification 17.4:1 C.R.; Grade D; No dot OE identification 17.4:1 C.R.; Grade E 17.4:1 C.R.; Grade E 17.4:1 C.R.; Grade E			
QTY 16 8 8 8	CONNECTING RODS & BRGS.  Con. Rod Bolt Rod Pair Rod Pair Rod Pair Rod Pair	PART NO. FP-8920087 FP-8921714 FP-8924703 FP-892171420 FP-892171430	SIZE  STD .25MM .50MM .75MM	<b>DESCRIPTION</b> 7/16" - 20 x 2.58"			
8 8 8 8 1 1 1 8	PISTON RINGS Ring Set Single Cylinder Premium Set Premium Set Premium Single Cylinder Set	PART NO. FP-8923780 FP-8923918 FP-8923920 FP-8921722 FP-892172230 FP-8921722S30 FP-8921722S WE-500KC Std-30	30 30	1-3.00MM, 1-2.50MM, 1-4.50MM 1-3.00MM, 1-2.50MM, 1-4.50MM 1-3.00MM, 1-2.50MM, 1-4.50MM 1-3.00MM, 1-2.50MM, 1-4.50MM 1-3.00MM, 1-2.50MM, 1-4.50MM; Also available as Sealed Power No. E-500KC 1-3.00MM, 1-2.50MM, 1-4.50MM			
	CLUTCH						
QTY 1	CLUTCH Ball Brg.	PART NO. FP-23503709	SIZE	DESCRIPTION			
	KITS						
QTY 1 1 1 1 1	OVERHAUL KIT Piston and Ring Kit Piston and Ring Kit w/Bearing Piston Kit w/Ring Set Piston Kit w/Rings & Bearings In-Frame Overhaul Kit Complete Overhaul Kit	PART NO. PK1-2667 PK2-2667 FP-PK12667 FP-PK22667 FP-82T FP-82TOH	SIZE	Pistons & main brgs. not incl. Incl. cam brg. set			



#### **Identifying the Series 50**

The Option Label, showing the option and model number, usually located on the left side of the valve cover, can identify the options and equipment for Series 50 engines. The engine serial number is stamped on the cylinder block below the manifolds. A typical engine serial number is 04R00000605.

A typical Model Number would be 6043GK32. This Model Number is broken down below to demonstrate the identification on the engine.





#### Series 50 In-Frame Overhaul - Crosshead Pistons KIT NUMBER COMPONENT NO. QTY. PART SIZE PART DESCRIPTION PART APPLICATION FP-IFKS50TLC FP-23532555 4 Cylinder Kit Complete Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; round piston design FP-23532556 4 Cylinder Kit Complete Engs. w/Top Liner Cooling (TLC); 3.50MM top ring FP-23532557 4 Cylinder Kit Complete Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; oval piston design FP-23532558 4 Cylinder Kit Complete Engs. w/Top Liner Cooling (TLC): 2.50MM top ring: Domed piston design FP-8929710 4 STD Connecting Rod Bearing Pair 1.7100" or 43.430MM O.A.L. 1.7100" or 43.430MM O.A.L. FP-8929711 4 .254MM Connecting Rod Bearing Pair FP-8929712 4 .508MM Connecting Rod Bearing Pair 1.7100" or 43.430MM O.A.L. FP-8929713 4 .762MM Connecting Rod Bearing Pair 1.7100" or 43.430MM O.A.L. STD Connecting Rod Bearing Pair 1.8670" or 47.430MM O.A.L. FP-23515581 4 FP-23515582 4 .254MM Connecting Rod Bearing Pair 1.8670" or 47.430MM O.A.L. FP-23515583 4 .508MM Connecting Rod Bearing Pair 1.8670" or 47.430MM O.A.L. 4 Connecting Rod Bearing Pair 1.8670" or 47.430MM O.A.L. FP-23515584 .762MM FP-8929670A 4 STD Main Bearing, Plain FP-8929671A .254MM Main Bearing, Plain 4 .508MM FP-8929672A 4 Main Bearing, Plain FP-8929673A 4 .762MM Main Bearing, Plain FP-8929680 1 STD Main Bearing, Flanged FP-8929681 1 .254MM Main Bearing, Flanged FP-8929682 1 .508MM Main Bearing, Flanged FP-8929683 1 .762MM Main Bearing, Flanged

2

2

2

1

1

STD

.127MM

.254MM

Thrust Washer

Thrust Washer

**Thrust Washer** 

Oil Pan Gasket

Head Gasket Set

FP-8929085

FP-8929697

FP-8929698

FP-23532330 FP-23511580



FP-23511580

1

### Series 50 Engine

#### Series 50 In-Frame Overhaul - Articulated Pistons KIT NUMBER COMPONENT NO. QTY. PART SIZE PART DESCRIPTION PART APPLICATION FP-IFK-FP-23532554 4 Cylinder Kit Complete Articulated piston design; 16.5:1 C.R.; Heavy pin; S50SPREM From Sept. 2002 FP-23532561 Cylinder Kit Complete Articulated piston design; 15.0:1 C.R.; Heavy pin; To Sept. 2002 FP-23515581 STD Connecting Rod Bearing Pair 1.8670" or 47.430MM O.A.L. 4 1.8670" or 47.430MM O.A.L. FP-23515582 4 .254MM Connecting Rod Bearing Pair FP-23515583 4 .508MM Connecting Rod Bearing Pair 1.8670" or 47.430MM O.A.L. 1.8670" or 47.430MM O.A.L. FP-23515584 4 .762MM Connecting Rod Bearing Pair FP-23526142 4 STD Connecting Rod Bearing Set FP-8929670A 4 STD Main Bearing, Plain FP-8929671A 4 .254MM Main Bearing, Plain FP-8929672A 4 .508MM Main Bearing, Plain FP-8929673A 4 .762MM Main Bearing, Plain 1 FP-8929680 STD Main Bearing, Flanged FP-8929681 1 .254MM Main Bearing, Flanged 1 FP-8929682 .508MM Main Bearing, Flanged FP-8929683 1 .762MM Main Bearing, Flanged FP-8929085 2 STD Thrust Washer FP-8929697 2 .127MM Thrust Washer FP-8929698 2 .254MM Thrust Washer 5 FP-8929690 STD Camshaft Bearing 26 FP-23530768 Cylinder Head Bolt FP-23532330 1 Head Gasket Set

Oil Pan Gasket



Multi-Purpose Engines Series 50 Eng. (8.5L) 8.5L 519 SOHC Turbo-Diesel L4 (16 Valve). 130mm Bore

	8.5L 519 SOHC Turbo-Diesel L4 (16 Valve), 130mm Boré				
	CYL. HEAD & PARTS				
QTY 1 1 1	GASKETS Valve Cover Gasket Head Gasket Head Set Breather Seal Ring	PART NO. FP-23511772 FP-23531306 FP-23532330 FP-5103646	SIZE	DESCRIPTION Intermediate to upper rocker cover gskt.  Lower rocker gasket not included	
-	HEAD BOLTS Head Bolt	PART NO. FP-23530768	SIZE	DESCRIPTION	
1 26 1	Head Bolt Set Washer Washer	FP-HBS001 FP-8929328 FP-5132715		Incl. (26) FP-23530768, (26) FP-8929328 Cylinder head bolt Splash Rail; .53" x .94" x .12"	
<b>QTY</b> 1 1 2 6	MISCELLANEOUS Pipe Plug Pipe Plug Pipe Plug Bolt	PART NO. FP-8923847 FP-8926993 FP-8923313 FP-11504822	SIZE	DESCRIPTION  1/4" x 18 NPTF; Square head  1/4" X 18; Recessed socket head  Cylinder head; 3/4"  Rocker cover mntg.; M8 x 1.25 x 30MM	
<b>QTY</b> 4 4	MANIFOLD STUDS Exhaust Manifold Stud Exhaust Manifold Stud	PART NO. FP-23507438 FP-8929425	SIZE	DESCRIPTION  Manifold to Turbo; M10 x 1.5 x 44.0  Manifold to Turbo; M10 x 1.5 x 50.0	
<b>QTY</b> 1 1 2	FREEZE PLUGS Pipe Plug Pipe Plug Pipe Plug Pipe Plug	PART NO. FP-8923847 FP-8926993 FP-8923313	SIZE	DESCRIPTION  1/4" x 18 NPTF; Square head  1/4" X 18; Recessed socket head  Cylinder head; 3/4"	
<b>QTY</b> 8 8 8	VALVE Intake Intake Exhaust	PART NO. FP-8929589 + FP-23529629 FP-23506350 +	SIZE	DESCRIPTION  30 deg. seat; 1.7320" Head Dia., .3421" Stem Dia., 8.4980"  O.A.L.; When depleted use FP-23529629  30 deg. seat; 30 Deg. seat Identification H; When depleted use FP-23524521	
8	Exhaust Exhaust	FP-23529596 FP-23524521		Use w/FP23533552 Valve Guide; 0.026" Valve Lash; 30 Deg. seat; Pyromet 31, Chrome plated stem; 1.5530" Head Dia., .3430" Stem Dia., 8.4710" O.A.L. 0.020" Valve Lash; EMS-247 Material; Chrome plated stem	
8	Exhaust Valve Kit	FP-23507504		Identification H; Incl. FP-23524521 valve, valve seal, keeper & rotocap	
8 32	Intake Valve Kit Keeper	FP-23501576 FP-8929573		Incl. FP-23529629 valve, valve seal, keeper & rotocap	
<b>QTY</b> 8	VALVE SEAT Exh.	PART NO. FP-8929126	SIZE	<b>DESCRIPTION</b> Std. Depth; 6.261MM - 6.363MM thick; 1.6285" OD, 1.3591" ID, .2485" Depth	
8	Exh.	FP-8929630 FP-8929629		U/S Depth; 5.499MM - 5.601MM thick; 1.6285" OD, 1.3591" ID, .2185" Depth U/S Depth; 5.753MM - 5.855MM thick; 1.6285" OD, 1.3591" ID,	
8	Exh.	FP-8929628			
8	Int.	FP-8929127		.2385" Depth Std. Depth; 7.155MM - 7.251MM thick; 1.8195" OD, 1.5710" ID,	
8	Int.	FP-8929627		.2837" Depth U/S Depth; 6.393MM - 6.495MM thick; 1.8195" OD, 1.5710" ID, .2537" Depth	
8	Int.	FP-8929626		U/S Depth; 6.647MM - 6.749MM thick; 1.8195" OD, 1.5710" ID, .2637" Depth	
8	Int.	FP-8929625		U/S Depth; 6.901MM - 7.003MM thick; 1.8195" OD, 1.5710" ID, .2737" Depth	
<b>QTY</b> 16	VALVE GUIDE Guide	PART NO. FP-23533552	SIZE	DESCRIPTION Exh. & Int.; From Ser. No. 4R37493; Powdered Metal replacement	
16 16	Guide Guide	FP-23518571 FP-23518572		Exh. & Int.; To Ser. No. 4R37493; 14.30MM - 14.32MM Dia. Exh. & Int.; To Ser. No. 4R37493; 14.43MM - 14.45MM Dia.	
<b>QTY</b> 16	VALVE SPRING Spring	PART NO. FP-8929415	SIZE	DESCRIPTION Exh. & Int.; Yellow stripe	
<b>QTY</b> 16 8 8 1	VALVE MISC. Rotocap Isolator, Rocker Cover Bolt Adj. Screw Crankcase Breather	PART NO. FP-8929105 FP-23517911 FP-23520818 FP-5101760	SIZE	Use w/Two piece rocker cover Int. valve adjusting 4"	
<b>QTY</b> 16	VALVE SEAL Valve Stem Seal	PART NO. FP-23523930	SIZE	DESCRIPTION	



5 (cor	5 Multi-Purpose Engines Series 50 Eng. (8.5L) (cont.) 8.5L 519 SOHC Turbo-Diesel L4 (16 Valve), 130mm Bore								
`	CYL. HEAD & PARTS (cont.)	,,							
<b>QTY</b> 20 2	ROCKER PARTS Nut O-Ring	PART NO. FP-23514371 FP-23521111	SIZE	DESCRIPTION Arm adj. screw; 3/8" - 24 UNF Rocker shaft seal					
	IGNITION								
QTY 4 8 8 2	IGNITION Bolt Isolator Bushing Isolator Bushing Rect. or Square Seal	PART NO. FP-11504822 FP-23502879 FP-23512307 FP-23504641	SIZE	DESCRIPTION  ECM mounting plate; M8 x 1.25 x 30MM  ECM mounting; DDECII  ECM mounting; DDECIII  Fuel fitting block					
	ELECTRICAL								
<b>QTY</b> 5 1 1	ELECTRICAL Bolt Gasket Starting Motor Gasket	PART NO. FP-11504822 FP-8929130 FP-5130995	SIZE	DESCRIPTION Tach drive cover; M8 x 1.25 x 30MM Tach drive cover Starter motor					
	INT & EXH MANIFOLDS								
8 2 2 1 1 1	INT. & EXH. MANIFOLDS Bolt Exhaust Manifold Gasket Air Intake Gasket Pipe Plug Pipe Plug	PART NO. FP-8929357 FP-23511666 FP-23517875 FP-8923313 FP-8924517	SIZE	DESCRIPTION  Manifold to head; M10 x 1.5 x 1.20  Intake manifold; 3/4"  Intake manifold; 3/8" x 18 square head					
	AIR INTAKE O-Ring Hose Clamp	PART NO. FP-5182977 FP-5137618	SIZE						
	CAMSHAFT GROUP								
QTY 1 1 1 1 1 1 1 1 1 1	TIMING  Dowel Pin  Dowel Pin  Bushing  Pipe Plug  Pipe Plug  Copper Washer  Bolt  Rect. or Square Seal	PART NO. FP-8929022 FP-8929015 FP-8929108 FP-8924517 FP-8924380 FP-5155596 FP-8929357 FP-5141452	SIZE	DESCRIPTION Gear case; 16MM; Diamond shape Gear case housing; 16MM; Circular shaped Cam gear Gear case cover; 3/8" x 18 square head Gear case housing; 1/8" - 27 Gear case housing; 5/16"; Special copper washer Gear case cover; M10 x 1.5 x 1.20 Gear case cover					
QTY 2 1 1 2 1 2 1	·	PART NO. FP-11504822 FP-23521935 FP-23528491 FP-8929740 FP-23522975 FP-23521894	SIZE	DESCRIPTION Balance shaft thrust plate; M8 x 1.25 x 30MM Thrust plate; Cylinder head Thrust plate; Gear housing Cap bearing seal; .134" x .074" x .480" Front cap seal Thrust plate; Cylinder head					
	BALANCE SHAFT								
<b>QTY</b> 4 1 2	BALANCE SHAFT Bolt Dowel Pin O-Ring	PART NO. FP-11504822 FP-8929022 FP-23505892	SIZE	DESCRIPTION  M8 x 1.25 x 30MM  Bal. shaft support; 16MM; Diamond shape  Oil pump inlet					
	ACCESSORY DRIVE								
1 1 1 1 1 1 1 1 1 2 1 1 1	ACCESSORY DRIVE Lock Ring Lock Ring Lock Ring Ball Brg. Retaining Ring Retaining Ring	PART NO. FP-23509204 FP-2351746 FP-8929062 FP-23505643 FP-23518178 FP-23509203 FP-907394 FP-23503704 FP-23503535 FP-23511745 FP-8929064 FP-8929064 FP-8929063	SIZE	DESCRIPTION Accessory drive Accessory gear Air compressor Power steering pump Accessory drive Accessory gear shaft Driven pulley Fan shaft inner Fan shaft outer Accessory drive Accessory drive; 3.121" OD Accessory drive; 1.618" OD Accessory drive; 3.734" OD					
5 16	Bolt Bolt	FP-11504822 FP-11504822		Assy. mounting; M8 x 1.25 x 30MM Front cover; M8 x 1.25 x 30MM					





Multi-Purpose Engines Series 50 Eng. (8.5L) 8.5L 519 SOHC Turbo-Diesel L4 (16 Valve), 130mm Bore (cont.) **ACCESSORY DRIVE (cont.)** QTY ACCESSORY DRIVE (cont.) PART NO. SIZE DESCRIPTION O-Rina FP-8929253 Acc. drive cover; .139" x 4.609" ID Gasket FP-8929130 Upper right rear & cam access cover 1 Gasket FP-8929299 Acc. drive front 1 1 Oil Seal FP-8929154 Oil accessory drive; Also available as National No. 484156V Lock Nut FP-11509584 Pulley Power Steering Pump Gasket FP-23516100 Power steering pump cover AIR COMPRESSOR QTY AIR COMPRESSOR PART NO. SIZE DESCRIPTION Ball Brg. FP-8929820 Drive Coupling FP-5141773 Air compressor drive 2 Lock Washer FP-103320 Booster tube; 5/16" Drive housing Gasket FP-8929299 1 Air Compressor Strainer Gskt. FP-5110410 Booster tube Accessory Drive Gasket FP-23515145 1 **FUEL SYSTEM & PARTS** QTY FUEL INJECTION PART NO. SIZE **DESCRIPTION** Fuel Injector Seal Ring FP-5104701 Injector hole tube; Viton 2 Fuel Injector Seal Ring FP-5234699 Lower Fuel Injector Seal Ring FP-5234702 1 Upper 4 Injector Hole Tube Kit FP-23501580 4 Adj. Screw FP-23520820 Injector adjusting 4 Bolt FP-8929393 Injector clamp QTY **FUEL FILTERS & PUMP** PART NO. DESCRIPTION Fuel Pump Coupling FP-23505249 For high capacity fuel pump For std. capacity fuel pump 1 Fuel Pump Coupling FP-8929479 FP-8929787 Fuel Pump Coupling 15.875MM ID Fuel Pump Drive 1 FP-23511964 For std. capacity fuel pump Fuel Pump Hub 12.70MM ID FP-8929480 1 Fuel Pump Gear Drive gear; .375 1 FP-23506546 Fuel Pump Gear FP-23511959 Driven gear; .275 1 Fuel Pump Drive Shaft FP-23506545 Drive shaft 1 Fuel Pump Drive Shaft FP-23506549 Driven shaft 1 Fuel Pump Check Valve FP-8923528 Injector check valve Fuel Pump Spacer FP-23506560 Relief Valve 1 Sealing Ring FP-23506556 Relief valve Cylindrical Brg. 4 FP-8923526 Fuel pump shaft FP-11504822 5 Bolt Fuel pump drive assy.; M8 x 1.25 x 30MM Fuel Pump Repair Part FP-23506564 Relief valve shear pin 1 Fuel Pump Body Plug FP-23506553 4 Snap Ring FP-8923522 Fuel pump drive gear FP-8929253 Fuel cover; .139" x 4.609" ID O-Rina 1 1 O-Ring FP-23524657 Fuel/water separator Fuel Pump Drive Adapter Gskt. FP-5150193 1 Fuel Pump Gasket 1 FP-23505248 Fuel pump mounting 2 Oil Seal FP-23512243 Fuel pump **BREATHER** QTY PART NO. SIZE **DESCRIPTION** Breather; 13/16" - 1 1/2" Clamping Range Hose Clamp FP-5186840 3 Bolt FP-11504822 Breather tube; M8 x 1.25 x 30MM QTY TURBOCHARGER **DESCRIPTION** PART NO. SIZE Turbocharger Exhaust Gasket FP-8929529 Inlet connection Turbocharger Oil Return Gskt. FP-8929285 FP-23512254 Turbo Inlet Connector Gasket Adapter to turbo GOVERNOR QTY GOVERNOR PART NO. SIZE **DESCRIPTION** Retaining Ring FP-9411502 Mechanical governor weight COOLING SYSTEM QTY WATER PUMP SIZE DESCRIPTION PART NO. Water Pump - Heavy Duty FP-23526039 Hi-Flow w/heat sink rotor Water Pump Shaft FP-8929157 Front mounted pumps Water Pump Shaft FP-23505896 Gear case mounted pumps Water Pump Impeller FP-8929512 Use w/Front mounted pumps 1 Water Pump Impeller FP-23517973 Use w/Gear case mounted pumps Water Pump Repair/Rebuild Kit FP-23509105 Incl. FP23505024 and FP23512048 plate seals. Water Pump Cover FP-8922383 Non-metallic; Non-Metallic



5 Multi-Purpose Engines Series 50 Eng. (8.5L) (cont.) 8.5L 519 SOHC Turbo-Diesel L4 (16 Valve), 130mm Bore

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Multi-Purpose Engines Series 50 Eng. (8.5L) 5 8.5L 519 SOHC Turbo-Diesel L4 (16 Valve), 130mm Bore (cont.)

	8.5L 519 SOHC Turbo-Diesel L4 (16 Valve), 130mm Bore (cont.)					
	CRANKSHAFT/OIL PUMP (con	t.)				
	MAIN BEARINGS	PART NO.	CITE	DESCRIPTION		
		_	<b>SIZE</b> STD	DESCRIPTION		
5	Plain Main Brg.	FP-8929670A				
5	Plain Main Brg.	FP-8929671A	.254MM			
5	Plain Main Brg.	FP-8929672A	.508MM			
5	Plain Main Brg.	FP-8929673A	.762MM			
1	Flanged Main Brg.	FP-8929680	STD			
1	Flanged Main Brg.	FP-8929681	.254MM			
1	Flanged Main Brg.	FP-8929682	.508MM			
1	Flanged Main Brg.	FP-8929683	.762MM			
1	Thrust Washer Set	FP-8929085S	STD	Position Upper		
2	Thrust Washer	FP-8929085	STD	Position Upper		
2	Thrust Washer	FP-8929697	.127MM	Position Upper; .127MM oversize		
2	Thrust Washer	FP-8929698	.254MM	Position Upper; .254MM oversize		
QTY	OIL PUMP	PART NO.	SIZE	DESCRIPTION		
1	Lo Pressure Regulator Valve	FP-8922740	OILL	DESCRIPTION		
i	Bushing	FP-5127978		Oil pump		
	Bushing	FP-23511370		Oil pump; 25MM Bore, 22.27MM Shaft, 26MM Length		
1	Oil Pump Spring	FP-5126327		Outlet bypass valve; .790" Dia., 2.96" Length		
2	Bolt	FP-11504822		Inlet tube; M8 x 1.25 x 30MM		
4	Bolt	FP-11504822		Outlet pipe; M8 x 1.25 x 30MM		
2	Bolt	FP-11504822		Pressure regulator; M8 x 1.25 x 30MM		
2	Bolt	FP-11504822		Pressure relief vlv.; M8 x 1.25 x 30MM		
1	Bolt	FP-11504822		Screen bracket; M8 x 1.25 x 30MM		
2	O-Ring	FP-23505892		Inlet pump inlet		
1	Oil Pump Intake Gasket	FP-8929344		Pump to block		
1	Oil Pump Outlet Gasket	FP-8929347				
1	Rect. or Square Seal	FP-8929341		Oil filter		
1	Rect. or Square Seal	FP-8929340		Oil filter bypass		
1	Oil Inlet Elbow Gasket	FP-23505992		Inlet tube to pump		
1	Lo Press. Reg. Body Gasket	FP-5117269				
1	Gasket	FP-8929302		Fill tube adapter		
	Pipe Plug	FP-23511574		Oil drain; 1/2" pipe thread; w/1" Square head		
2	Pipe Plug	FP-8923313		Oil drain; 3/4"		
2	Pipe Plug	FP-8923847		Oil pan plug; 1/4" x 18 NPTF; Square head		
1	Oil Suction Tube Gasket	FP-23511656		Inlet tube to pump		
2	Hose Clamp	FP-23505048		Oil filler tube		
	-	11-200000		Oil filler tube		
	CYLINDER COMPONENTS					
QTY	LINERS	PART NO.	SIZE	DESCRIPTION		
4	Liner w/Sealing Rings	FP-23531249		FP-23534264 liner incl.		
4	Cylinder Kit Complete	FP-23532561	STD	Articulated piston design; 15.0:1 C.R.; Heavy pin; To Sept. 2002		
4	Cylinder Kit Complete	FP-23532554		Articulated piston design; 16.5:1 C.R.; Heavy pin; From Sept.		
	Cymrus. File Compress		0.2	2002		
4	Cylinder Kit Complete	FP-23532558	STD	Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Domed		
	Cymraer rat Comprete		0.2	piston design		
4	Cylinder Kit Complete	FP-23532557	STD	, •		
	Symmod tat Complete		0,0	design		
4	Cylinder Kit Complete	FP-23532555	STD	Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston		
	Symbol Nit Somplete	1. 20002000	טוט	design		
4	Cylinder Kit Complete	FP-23532556	STD	Engs. w/Top Liner Cooling (TLC); 3.50MM top ring		
4	Sealing Ring, Liner	FP-8929013	טוט	Crevice seal		
8	Sealing Ring, Liner	FP-8929176	04	D-ring seal		
4	Flange Shim	FP-20044		.031" Thick		
4	Flange Shim	FP-20045	62	.062" Thick		
4	Cntr. Bore Insert	FP-23525500				
4	Lower Block Bore Sleeve	FP-20042				
QTY	PISTONS	PART NO.	SIZE	DESCRIPTION		
4	Piston Kit w/Pin & Retainers	FP-23519646	STD	Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston		
			3.5	design		
4	Piston Kit w/Pin & Retainers	FP-23519624	STD	Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Round		
			3.2	piston design		
4	Piston Kit w/Pin & Retainers	FP-23524601	STD	Engs. w/2.50MM top ring		
4	Piston Kit w/Pin & Retainers	FP-23519635		Engs. w/3.50MM top ring		
4	Piston Skirt	FP-23521802	510	Aluminum skirt for forged steel crown articulated piston		
4	Piston Skirt	FP-23516681		Ductile iron for standard cross head piston		
4	Pin	FP-8929087		Hallan sia w/o occil (occil 40014) LD Addied a Little H		
4	Pin	FP-23525168		Hollow pin w/0.866" (22MM) I.D.; Articulated piston; Heavy pin		
8	Piston Pin Retainer	FP-23521781		Use w/Articulated pistons		
8	Piston Pin Bolt	FP-8929337				
8	Piston Pin Bolt Spacer	FP-8929504				
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5	5 Multi-Purpose Engines Series 50 Eng. (8.5L)						
(cor	(cont.) 8.5L 519 SOHC Turbo-Diesel L4 (16 Valve), 130mm Bore						
	CYLINDER COMPONENTS (cont.)						
QTY	PISTONS (cont.)	PART NO.	SIZE	DESCRIPTION			
4	Piston Cooling Nozzle	FP-23528493		Use w/Articulated pistons			
4	Bolt	FP-23506222		Use w/Articulated pistons; M8 - 1.25" x 20, 12 point			
4	Pin Bushing	FP-4774Y					
	CONNECTING RODS &						
ОТУ	BRGS.	PART NO.	SIZE	DESCRIPTION			
8	Con. Rod Bolt	FP-8929355	SIZL	M14 x 1.5" x 108			
8	Con. Rod Nut			M14 x 1.5			
_	Rod Pair	FP-8929019 FP-23526142	CTD				
4	Rod Pair			Engs. w/Articulated pistons; Drilled uppper & lower			
4		FP-23527065 *		Engs. w/Articulated pistons; Drilled uppper & lower			
4	Rod Pair	FP-23527066 *	.DUBIVIIVI	Engs. w/Articulated pistons; Drilled uppper & lower			
4	Rod Pair	FP-23527067 *		Engs. w/Articulated pistons; Drilled uppper & lower			
4	Rod Pair	FP-8929710		O.A.L. 1.7100" or 43.430MM			
4	Rod Pair	FP-8929711		O.A.L. 1.7100" or 43.430MM			
4	Rod Pair	FP-8929712		O.A.L. 1.7100" or 43.430MM			
4	Rod Pair	FP-8929713		O.A.L. 1.7100" or 43.430MM			
4	Rod Pair	FP-23515581		O.A.L. 1.8670" or 47.430MM			
4	Rod Pair	FP-23515582		O.A.L. 1.8670" or 47.430MM			
4	Rod Pair	FP-23515583		O.A.L. 1.8670" or 47.430MM			
4	Rod Pair	FP-23515584	.762MM	O.A.L. 1.8670" or 47.430MM			
QTY	PISTON RINGS	PART NO.	SIZE	DESCRIPTION			
4	Ring Set Single Cylinder	FP-23503747	0	2.50MM top ring; Cross Head & Articulated pistons			
4	Ring Set Single Cylinder	FP-23505729		3.50MM top ring; Cross Head pistons only			
4	Compression Ring	FP-8929845		Intermediate			
4	Compression Ring	FP-8929844		Top; 2.50MM			
4	Compression Ring	FP-23504941		_ '''			
4	Oil Ring	FP-23515500		Top; 3.50MM			
4							
4	Oil Ring Expander	FP-23529379					
	KITS						
	RE-RING KIT			QTY PREMIUM QTY ECONOMY			
YE	ARS DESCRIPTION			KIT NO. KIT NO.			
	In-Frame Kit	R	e-ring w/	/Mains 1 FP-S60IFKRR			
	6 1 117						
I	Overhaul Kit	R					
OTV			e-ring w	Mains 1 <b>FP-S60OHRR</b>			
	OVERHAUL KIT	PART NO.	e-ring w	/Mains 1 FP-S60OHRR DESCRIPTION			
1	OVERHAUL KIT In-Frame Overhaul Kit	PART NO. FP-IFKS50SPREM	e-ring w	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons			
	OVERHAUL KIT	PART NO.	e-ring w	/Mains 1 FP-S60OHRR DESCRIPTION			
1	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serion	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7	e-ring w/ SIZE L)	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons			
1	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serion	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7	e-ring w/ SIZE L)	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons			
1	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit Multi-Purpose Engines Serion 8.7L 530 OHV Turbo-Diesel L6 (1)	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7	e-ring w/ SIZE L)	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons			
1	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serion	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7	e-ring w/ SIZE L)	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons			
6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (12)  CYL. HEAD & PARTS	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7	SIZE  L)  ore (Inte	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons			
6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit Multi-Purpose Engines Serion 8.7L 530 OHV Turbo-Diesel L6 (1)	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7 2 Valve), 4.587" Bo	SIZE  L)  ore (Inte	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  ernational Eng.)			
1 1 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7 2 Valve), 4.587" Bo	SIZE  L)  ore (Inte	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  ernational Eng.)			
1 1 6 QTY 1	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS  Valve Cover Gasket Head Gasket	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562	SIZE  L)  re (Inte	Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  ernational Eng.)  DESCRIPTION			
1 1 6 QTY 1 1 1	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS  Valve Cover Gasket Head Gasket  VALVE	PART NO. FP-IFKS50SPREM FP-IFKS50TLC es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562 PART NO.	SIZE  L)  re (Inte	Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  ernational Eng.)  DESCRIPTION  DESCRIPTION			
1 1 0 QTY 1 1 QTY 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket  VALVE Intake	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1818580	SIZE  L)  re (Inte	/Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  ernational Eng.)  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs.			
1 1 2 QTY 1 1 QTY 6 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket  VALVE Intake Exhaust	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817562  PART NO. FP-1818580 FP-1824838	SIZE  L)  re (Inte	Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Prnational Eng.)  DESCRIPTION  DESCRIPTION  1530 & 1530P (NGD) Engs. 1530 & 1530P (NGD) Engs.; 5/16" valve stem			
1 1 0 QTY 1 1 QTY 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS  Valve Cover Gasket Head Gasket  VALVE Intake Exhaust Keeper	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1818580	SIZE  L)  ore (Inte	Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  ernational Eng.)  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs.; 5/16" valve stem I530 & I530P (NGD) Engs.			
1 1 2 QTY 1 1 QTY 6 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket  VALVE Intake Exhaust	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817562  PART NO. FP-1818580 FP-1824838	SIZE  L)  ore (Inte	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Prnational Eng.)  DESCRIPTION  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs.; 5/16" valve stem I530 & I530P (NGD) Engs. DESCRIPTION			
1 1 0 QTY 1 1 QTY 6 6 6 24	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS  Valve Cover Gasket Head Gasket  VALVE Intake Exhaust Keeper	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562 PART NO. FP-1818580 FP-1824838 FP-1810944	SIZE  L)  ore (Inte	Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  ernational Eng.)  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs.; 5/16" valve stem I530 & I530P (NGD) Engs.			
1 1 1 QTY 1 1 QTY 6 6 6 24	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper VALVE SEAT	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562 PART NO. FP-1818580 FP-1824838 FP-1810944 PART NO.	SIZE  SIZE  SIZE  SIZE  SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Prnational Eng.)  DESCRIPTION  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs.; 5/16" valve stem I530 & I530P (NGD) Engs. DESCRIPTION			
1 1 0 0 1 1 1 0 0 6 6 24 0 0 6 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper VALVE SEAT Exh. Int.	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562 PART NO. FP-1818580 FP-1824838 FP-1810944 PART NO. FP-675450 FP-675043	SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  STD  STD	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Prnational Eng.)  DESCRIPTION  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs.; 5/16" valve stem I530 & I530P (NGD) Engs. DESCRIPTION  ID. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth			
1 1 1 QTY 1 1 1 QTY 6 6 6 24 QTY 6 6 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serion 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper  VALVE SEAT Exh. Int.  VALVE GUIDE	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO.	SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  STD  STD	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons Use w/Cross Head pistons  DESCRIPTION  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs.; 5/16" valve stem I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION			
1 1 1 QTY 1 1 1 QTY 6 6 6 24 QTY 6 6 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper VALVE SEAT Exh. Int. VALVE GUIDE Guide	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562 PART NO. FP-1818580 FP-1824838 FP-1810944 PART NO. FP-675450 FP-675043	SIZE	#Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Pernational Eng.)  DESCRIPTION  DESCRIPTION  1530 & 1530P (NGD) Engs. 1530 & 1530P (NGD) Engs.; 5/16" valve stem 1530 & 1530P (NGD) Engs.  DESCRIPTION  1.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth 1.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION  1530 & 1530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.			
1 1 1 QTY 1 1 1 QTY 6 6 6 24 QTY 6 6 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serion 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper  VALVE SEAT Exh. Int.  VALVE GUIDE	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO.	SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  STD  STD	#Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Pernational Eng.)  DESCRIPTION  DESCRIPTION  1530 & 1530P (NGD) Engs. 1530 & 1530P (NGD) Engs.; 5/16" valve stem 1530 & 1530P (NGD) Engs.  DESCRIPTION  1.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth 1.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION  1530 & 1530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.			
1 1 1 QTY 1 1 1 QTY 6 6 6 24 QTY 6 6 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper VALVE SEAT Exh. Int. VALVE GUIDE Guide	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264	SIZE	#Mains 1 FP-S60OHRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Pernational Eng.)  DESCRIPTION  DESCRIPTION  1530 & 1530P (NGD) Engs. 1530 & 1530P (NGD) Engs. 1530 & 1530P (NGD) Engs. DESCRIPTION  1.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION  1530 & 1530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.			
1 1 1 QTY 1 1 1 QTY 6 6 6 24 QTY 6 6 6 QTY 12 QTY 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper VALVE SEAT Exh. Int. VALVE GUIDE Guide VALVE SPRING Spring	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817562 PART NO. FP-1818580 FP-1824838 FP-1810944 PART NO. FP-675450 FP-675043 PART NO. FP-1820264 PART NO. FP-1820264 PART NO. FP-677349	e-ring w/ SIZE  L) ore (Interest SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE	#Mains 1 FP-\$600HRR  DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  #mational Eng.)  DESCRIPTION    DESCRIPTION			
1 1 1	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper VALVE SEAT Exh. Int. VALVE GUIDE Guide VALVE SPRING Spring VALVE MISC.	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-677349  PART NO.	SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Pernational Eng.)  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I530 & I530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.  DESCRIPTION Int.  DESCRIPTION Int.			
1 1 1 QTY 1 1 QTY 6 6 6 24 QTY 12 QTY 6 6 QTY 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serion 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper  VALVE SEAT Exh. Int.  VALVE GUIDE Guide  VALVE SPRING Spring  VALVE MISC. Rotocap	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-1820264  PART NO. FP-677349  PART NO. FP-1824680	e-ring w/ SIZE  L) ore (Interest SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I530 & I530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.  DESCRIPTION Int.  DESCRIPTION Exh.; I530E Engs.; Valve stem seal incl.			
1 1 1	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Series. 7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket  VALVE Intake Exhaust Keeper  VALVE SEAT Exh. Int.  VALVE GUIDE Guide  VALVE SPRING Spring  VALVE MISC.  Rotocap Valve Rotator Seal	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-677349  PART NO.	e-ring w/ SIZE  L) ore (Interest SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  Pernational Eng.)  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I530 & I530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.  DESCRIPTION Int.  DESCRIPTION Int.			
1 1 1 QTY 1 1 QTY 6 6 6 24 QTY 12 QTY 6 6 QTY 6	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serion 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper  VALVE SEAT Exh. Int.  VALVE GUIDE Guide  VALVE SPRING Spring  VALVE MISC. Rotocap	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-1820264  PART NO. FP-677349  PART NO. FP-1824680	e-ring w/ SIZE  L) ore (Interest SIZE SIZE SIZE SIZE SIZE SIZE SIZE SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs. I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I530 & I530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.  DESCRIPTION Int.  DESCRIPTION Exh.; I530E Engs.; Valve stem seal incl.			
1 1 1 QTY 1 1 1 QTY 6 6 6 24 QTY 6 6 0 24 QTY 6 12	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Series. 7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket  VALVE Intake Exhaust Keeper  VALVE SEAT Exh. Int.  VALVE GUIDE Guide  VALVE SPRING Spring  VALVE MISC.  Rotocap Valve Rotator Seal	PART NO. FP-IFK\$50\$PREM FP-IFK\$50\$PREM FP-IFK\$50\$TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-1820264  PART NO. FP-1824680 FP-1824683	e-ring w/ SIZE  L) ore (Interest SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons Use w/Cross Head pistons  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I530 & I530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.  DESCRIPTION Int.  DESCRIPTION Exh.; I530E Engs.; Valve stem seal incl. Exh. & Int.; I530E Engs.			
1 1 1 QTY 1 1 1 QTY 6 6 6 24 QTY 6 6 0 24 QTY 6 12	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket  VALVE Intake Exhaust Keeper  VALVE SEAT Exh. Int.  VALVE GUIDE Guide  VALVE SPRING Spring  VALVE MISC. Rotocap Valve Rotator Seal  CAMSHAFT GROUP  CAMSHAFT TIMING	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-1824680 FP-1824680 FP-1824683  PART NO.	e-ring w/ SIZE  L) ore (Interest SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons Use w/Cross Head pistons  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I530 & I530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.  DESCRIPTION Int.  DESCRIPTION Exh.; I530E Engs.; Valve stem seal incl. Exh. & Int.; I530E Engs.			
1 1 1 QTY 1 1 1 QTY 6 6 6 24 QTY 6 6 0 12 QTY 6	OVERHAUL KIT In-Frame Overhaul Kit Int.  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper VALVE SEAT Exh. Int. VALVE GUIDE Guide VALVE SPRING Spring VALVE MISC. Rotocap Valve Rotator Seal  CAMSHAFT GROUP  CAMSHAFT TIMING Woodruff Key	PART NO. FP-IFK\$50\$PREM FP-IFK\$50\$PREM FP-IFK\$50\$TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-1820264  PART NO. FP-1824680 FP-1824683	e-ring w/ SIZE  L) ore (Interest SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons Use w/Cross Head pistons  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I530 & I530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.  DESCRIPTION Int.  DESCRIPTION Exh.; I530E Engs.; Valve stem seal incl. Exh. & Int.; I530E Engs.			
1 1 1 QTY 1 1 1 QTY 6 6 6 QTY 12 QTY 6 12	OVERHAUL KIT In-Frame Overhaul Kit In-Frame Overhaul Kit In-Frame Overhaul Kit  Multi-Purpose Engines Serie 8.7L 530 OHV Turbo-Diesel L6 (1)  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket  VALVE Intake Exhaust Keeper  VALVE SEAT Exh. Int.  VALVE GUIDE Guide  VALVE SPRING Spring  VALVE MISC. Rotocap Valve Rotator Seal  CAMSHAFT GROUP  CAMSHAFT TIMING	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-1824680 FP-1824680 FP-1824683  PART NO.	e-ring w/ SIZE  L) ore (Interest SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons Use w/Cross Head pistons  DESCRIPTION  DESCRIPTION  I530 & I530P (NGD) Engs. DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth DESCRIPTION I530 & I530P (NGD) Engs.; .315" ID, .565" OD, 2.391" O.A.L.  DESCRIPTION Int.  DESCRIPTION Exh.; I530E Engs.; Valve stem seal incl. Exh. & Int.; I530E Engs.			
1 1 1 QTY 1 1 1 QTY 6 6 6 QTY 12 QTY 6 12 QTY 1	OVERHAUL KIT In-Frame Overhaul Kit Int.  CYL. HEAD & PARTS  GASKETS Valve Cover Gasket Head Gasket VALVE Intake Exhaust Keeper VALVE SEAT Exh. Int. VALVE GUIDE Guide VALVE SPRING Spring VALVE MISC. Rotocap Valve Rotator Seal  CAMSHAFT GROUP  CAMSHAFT TIMING Woodruff Key	PART NO. FP-IFKS50SPREM FP-IFKS50TLC  es 40 Eng. (8.7 2 Valve), 4.587" Bo  PART NO. FP-1817510 FP-1817562  PART NO. FP-1818580 FP-1824838 FP-1810944  PART NO. FP-675450 FP-675043  PART NO. FP-1820264  PART NO. FP-1824680 FP-1824680 FP-1824683  PART NO.	e-ring w/ SIZE  L) ore (Interest SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE  SIZE	DESCRIPTION Use w/Articulated pistons Use w/Cross Head pistons  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  DESCRIPTION  I.D. Top taper 1.524"; 1.6285" OD, 1.3480" ID, .3650" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.7120" ID, .3860" Depth I.D. Top taper 1.767"; 1.9990" OD, 1.565" OD, 2.391" O.A.L.  DESCRIPTION  I.D. DESCRIPTION  Cam gear; 1/4" x 3/4"			

(continued on next page)

.060" thick

FP-675477

6 Injector Nozzle Seat Gasket





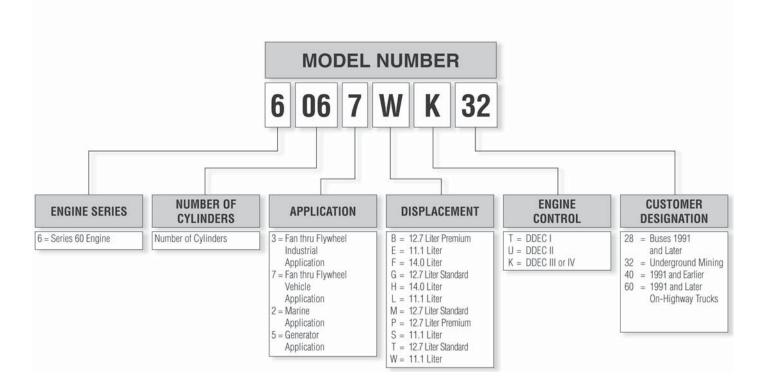
Multi-Purpose Engines Series 40 Eng. (8.7L) 8.7L 530 OHV Turbo-Diesel L6 (12 Valve), 4.587" Bore (International Eng.) (cont.) **FUEL SYSTEM & PARTS (cont.)** SIZE DESCRIPTION QTY FUEL INJECTION (cont.) PART NO. Grommet FP-682810 Injector dust cover 6 Fuel Injector Sleeve FP-675442 QTY TURBOCHARGER PART NO. SIZE DESCRIPTION FP-253660 Turbocharger Oil Inlet Gasket Turbocharger Mounting Gasket FP-1822120 COOLING SYSTEM QTY WATER PUMP PART NO. SIZE DESCRIPTION Water Pump - Heavy Duty FP-1817687 **ENGINE BLOCK & PARTS** QTY GASKETS DESCRIPTION PART NO. SIZE Chemicals FP-1816593 Oil Pan; RTV Sealant FP-690437 1 Oil Seal Kit Oil pump; Incl. seal & wear sleeve **QTY CAM BEARINGS** PART NO. SIZE **DESCRIPTION** FP-680117 Also available as Sealed Power No. 1470M Cam Set STD CRANKSHAFT/OIL PUMP QTY SEALS - FRONT CRANK PART NO. **DESCRIPTION** 1 Oil Seal Kit FP-690437 Incl. seal & wear sleeve QTY SEALS - REAR CRANK PART NO. SIZE DESCRIPTION 1 Oil Seal Kit FP-1817867 QTY MAIN BEARINGS PART NO. SIZE **DESCRIPTION** Plain Main Brg. Position 1-2-3-4-5-6 6 FP-1822321 STD Plain Main Brg. FP-1822490 Position 1-2-3-4-5-6 6 10 Plain Main Brg. FP-1822491 Position 1-2-3-4-5-6 6 Plain Main Brg. Position 1-2-3-4-5-6 6 FP-1822492 30 Flanged Main Brg. FP-1822379 STD Position 7 FP-1822494 Flanged Main Brg. Position 7 1 10 Flanged Main Brg. FP-1822495 20 Position 7 Flanged Main Brg. Position 7 FP-1822496 CYLINDER COMPONENTS QTY LINERS PART NO. SIZE DESCRIPTION Cyl. Liner Sealing Ring Kit FP-1822322 Sealing Ring, Liner 6 FP-1817633 Sealing Ring, Liner FP-1842115 6 Sealing Ring, Liner FP-1817000 + 6 When depleted use FP-1842115 QTY PISTONS PART NO. SIZE DESCRIPTION 6 Pin FP-1818552 Piston Pin Retainer 12 FP-1818702 Pin Bushing FP-1818598 **CONNECTING RODS &** QTY BRGS. PART NO. SIZE DESCRIPTION 6 Rod Pair FP-1822389 STD Rod Pair FP-1822486 6 10 Rod Pair FP-1822487 6 20 **QTY PISTON RINGS** PART NO. SIZE DESCRIPTION Ring Set Single Cylinder FP-1825461



#### Identifying the Series 60

The Option Label, showing the option and model number, usually located on the left side of the valve cover, can identify the options and equipment for Series 60 engines. The engine serial number is stamped on the cylinder block below the manifolds. A typical engine serial number is 06R00000000.

A typical Model Number would be 6067WT40. This Model Number is broken down below to demonstrate the identification on the engine.





#### 11.1L, 12.7L Series 60 In-Frame Overhaul

KIT NUMBER	COMPONENT NO.	QTY.	PART SIZE	PART DESCRIPTION	PART APPLICATION
FP-S60	FP-23519625* <b>FP-23532590</b>	6		Cylinder Kit Complete	Engs. w/Standard Liner; 2.50MM top ring; round piston design
	FP-23519637* <b>FP-23532591</b>	6		Cylinder Kit Complete	Engs. w/Standard Liner; 3.50MM top ring
	FP-23523951* <b>FP-23532555</b>	6		Cylinder Kit Complete	Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; round piston design
	FP-23523952* <b>FP-23532556</b>	6		Cylinder Kit Complete	Engs. w/Top Liner Cooling (TLC); 3.50MM top ring;
	FP-23523954* <b>FP-23532557</b>	6		Cylinder Kit Complete	Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; oval piston design
	FP-8929710	6	Std.	Rod Bearing Pair	1.7100" or 43.430 O.A.L.
	FP-8929711	6	.254MM	Rod Bearing Pair	1.7100" or 43.430 O.A.L.
	FP-8929712	6	.508MM	Rod Bearing Pair	1.7100" or 43.430 O.A.L.
	FP-8929713	6	.762MM	Rod Bearing Pair	1.7100" or 43.430 O.A.L.
	FP-23515581	6	Std.	Rod Bearing Pair	1.8670" or 47.430MM O.A.L.
	FP-23515582	6	.254MM	Rod Bearing Pair	1.8670" or 47.430MM O.A.L.
	FP-23515583	6	.508MM	Rod Bearing Pair	1.8670" or 47.430MM O.A.L.
	FP-23515584	6	.762MM	Rod Bearing Pair	1.8670" or 47.430MM O.A.L.
	FP-8929670A	6	Std.	Main Bearing Plain	
	FP-8929671A	6	.254MM	Main Bearing Plain	
	FP-8929672A	6	.508MM	Main Bearing Plain	
	FP-8929673A	6	.762MM	Main Bearing Plain	
	FP-8929680	1	Std.	Main Bearing Flanged	
	FP-8929681	1	.254MM	Main Bearing Flanged	
	FP-8929682	1	.508MM	Main Bearing Flanged	
	FP-8929683	1	.762MM	Main Bearing Flanged	
	FP-8929085	2	Std.	Thrust Washer	
	FP-8929697	2	.127MM	Thrust Washer	
	FP-8929698	2	.254MM	Thrust Washer	
	FP-8929102	1		Oil Pan Gasket Set	Standard Oil Pan
	FP-23522279	1		Oil Pan Gasket Set	Use w/o Cord Modified Seal System
	FP-23532333	1		Head Gasket Set	

<sup>\*</sup> When inventory depleted use new number in bold.



#### 11.1L, 12.7L Series 60 Complete Overhaul

KIT NUMBER	COMPONENT NO.	QTY.	PART SIZE	PART DESCRIPTION	PART APPLICATION
FP-S60-OH	FP-23519625* <b>FP-23532590</b>	6		Cylinder Kit Complete	Engs. w/Standard Liner; 2.50MM top ring; round piston design
	FP-23519637* <b>FP-23532591</b>	6		Cylinder Kit Complete	Engs. w/Standard Liner; 3.50MM top ring
	FP-23523951* <b>FP-23532555</b>	6		Cylinder Kit Complete	Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; round piston design
	FP-23523952* <b>FP-23532556</b>	6		Cylinder Kit Complete	Engs. w/Top Liner Cooling (TLC); 3.50MM top ring;
	FP-23523954* <b>FP-23532557</b>	6		Cylinder Kit Complete	Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; oval piston design
	FP-8929710	6	Std.	Rod Bearing Pair	1.7100" or 43.430 O.A.L.
	FP-8929711	6	.254MM	Rod Bearing Pair	1.7100" or 43.430 O.A.L.
	FP-8929712	6	.508MM	Rod Bearing Pair	1.7100" or 43.430 O.A.L.
	FP-8929713	6	.762MM	Rod Bearing Pair	1.7100" or 43.430 O.A.L.
	FP-23515581	6	Std.	Rod Bearing Pair	1.8670" or 47.430MM O.A.L.
	FP-23515582	6	.254MM	Rod Bearing Pair	1.8670" or 47.430MM O.A.L.
	FP-23515583	6	.508MM	Rod Bearing Pair	1.8670" or 47.430MM O.A.L.
	FP-23515584	6	.762MM	Rod Bearing Pair	1.8670" or 47.430MM O.A.L.
	FP-8929670A	6	Std.	Main Bearing Plain	
	FP-8929671A	6	.254MM	Main Bearing Plain	
	FP-8929672A	6	.508MM	Main Bearing Plain	
	FP-8929673A	6	.762MM	Main Bearing Plain	
	FP-8929680	1	Std.	Main Bearing Flanged	
	FP-8929681	1	.254MM	Main Bearing Flanged	
	FP-8929682	1	.508MM	Main Bearing Flanged	
	FP-8929683	1	.762MM	Main Bearing Flanged	
	FP-8929085	2	Std.	Thrust Washer	
	FP-8929697	2	.127MM	Thrust Washer	
	FP-8929698	2	.254MM	Thrust Washer	
	FP-23512691	1		Complete Gasket Set	Crankshaft seals not included

<sup>\*</sup> When inventory depleted use new number in bold.



#### Series 60 In-Frame Overhaul - Articulated Pistons KIT NUMBER COMPONENT NO. QTY. PART SIZE PART DESCRIPTION PART APPLICATION FP-IFK-FP-23532554 6 Cylinder Kit Complete Articulated piston design; S60SPREM 16.5:1 C.R.; Heavy pin; From Sept. 2002 FP-23532561 6 Cylinder Kit Complete Articulated piston design; 15.0:1 C.R.; Heavy pin; To Sept. 2002 STD FP-23532883 6 Cylinder Kit Complete Articulated piston design; 15.0:1 C.R.; Light pin; To Sept. 2002 FP-23537594 Cylinder Kit Complete Articulated piston design; 6 16.5:1 C.R.; Light pin; From Sept. 2002 FP-23526142 6 STD Connecting Rod Bearing Set 6 STD FP-8929670A Main Bearing, Plain 6 FP-8929671A .254MM Main Bearing, Plain .508MM FP-8929672A 6 Main Bearing, Plain 6 .762MM FP-8929673A Main Bearing, Plain 1 FP-8929680 STD Main Bearing, Flanged FP-8929681 1 .254MM Main Bearing, Flanged 1 FP-8929682 .508MM Main Bearing, Flanged FP-8929683 1 .762MM Main Bearing, Flanged FP-8929085 2 STD Thrust Washer 2 .127MM Thrust Washer FP-8929697 FP-8929698 2 .254MM Thrust Washer 7 FP-8929690 STD Camshaft Bearing FP-23530768 38 Cylinder Head Bolt 1 Head Gasket Set FP-23532333 FP-23522279 1 Oil Pan Gasket Use for oil pan w/o cord modified seal system FP-8929102 1 Oil Pan Gasket Standard oil pan 2 FP-8929878 Thermostat



#### Series 60 In-Frame Overhaul - Articulated Pistons

KIT NUMBER	COMPONENT NO.	QTY.	PART SIZE	PART DESCRIPTION	PART APPLICATION
FP-OH- S60SPREM	FP-23532554	6		Cylinder Kit Complete	Articulated piston design; 16.5:1 C.R.; Heavy pin; From Sept. 2002
	FP-23532561	6		Cylinder Kit Complete	Articulated piston design; 15.0:1 C.R.; Heavy pin; To Sept. 2002
	FP-23532883	6	STD	Cylinder Kit Complete	Articulated piston design; 15.0:1 C.R.; Light pin; To Sept. 2002
	FP-23537594	6		Cylinder Kit Complete	Articulated piston design; 16.5:1 C.R.; Light pin; From Sept. 2002
	FP-23526142	6	STD	Connecting Rod Bearing Set	
	FP-8929670A	6	STD	Main Bearing, Plain	
	FP-8929671A	6	.254MM	Main Bearing, Plain	
	FP-8929672A	6	.508MM	Main Bearing, Plain	
	FP-8929673A	6	.762MM	Main Bearing, Plain	
	FP-8929680	1	STD	Main Bearing, Flanged	
	FP-8929681	1	.254MM	Main Bearing, Flanged	
	FP-8929682	1	.508MM	Main Bearing, Flanged	
	FP-8929683	1	.762MM	Main Bearing, Flanged	
	FP-8929085	2	STD	Thrust Washer	
	FP-8929697	2	.127MM	Thrust Washer	
	FP-8929698	2	.254MM	Thrust Washer	
	FP-8929690	7	STD	Camshaft Bearing	
	FP-23530768	38		Cylinder Head Bolt	
	FP-23532332	1		Complete Overhaul Gasket Set	Does not contain oil pan gasket
	FP-23522279	1		Oil Pan Gasket	Use for oil pan w/o cord modified seal system
	FP-8929102	1		Oil Pan Gasket	Standard oil pan
	FP-8929878	2		Thermostat	



Multi-Purpose Engines Series 60 Eng. (11.1L) 11.1L 677 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore

			11.1L6	77 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore
	CYL. HEAD & PARTS			
	GASKETS	PART NO.	SIZE	DESCRIPTION
1	Valve Cover Gasket	FP-23506153	SIZE	Intermediate to upper rocker cover gskt.; 98.38" circumference; Diamond shaped 0.146" thick; For 3 piece cover; Use w/O.E. No. 23505973 rocker cover
1	Valve Cover Gasket	FP-23511992		Intermediate to upper rocker cover gskt.; 98.38" circumference; Diamond shaped 0.186" thick; For all 3 piece rocker covers Exc. O.E. No. 23505973
1	Valve Cover Gasket	FP-8929803		Lower to upper rocker cover gskt.; 106.68" circumference; Diamond shaped 0.146" thick; for 2 piece cover; Use w/O.E. No. 8929653 rocker cover
1	Valve Cover Gasket	FP-23511991		Lower to upper rocker cover gskt.; 106.68" circumference; Diamond shaped 0.186" thick; For 2 piece cover
1	Valve Cover Gasket	FP-23522269		New design rocker cover; Black polyacrylate
1	Valve Cover Gasket	FP-23516322		Standard rocker cover; Gray silicone
1	Head Gasket	FP-23530421		Blue Seal® Gasket Design
1	Head Gasket	FP-23538406		ML7 <sup>™</sup> head gasket design
1	Head Set	FP-23532333		Incl. Blue Seal® Gasket Design head gasket
1	Head Set	FP-23536442		Incl. ML7 <sup>™</sup> head gasket
1	Breather Seal Ring	FP-5103646		
<b>QTY</b> 38	HEAD BOLTS Head Bolt	<i>PART NO.</i> FP-23530768	SIZE	DESCRIPTION
1	Head Bolt Set	FP-HBS002		Incl. (38) FP-23530768, (38) FP-8929328
38	Washer	FP-8929328		Cylinder head bolt
QTY	MISCELLANEOUS	PART NO.	SIZE	DESCRIPTION
2	Pipe Plug	FP-8923313		Cylinder head; 3/4"
8	Bolt	FP-11504822		Rocker cover mntg.; M8 x 1.25 x 30MM
OTV	MANIFOLD STUDS	PART NO.	SIZE	DESCRIPTION
4	Exhaust Manifold Stud	FP-23507438	SIZE	Manifold to Turbo: M10 x 1.5 x 44.0
4	Exhaust Manifold Stud	FP-8929425		Manifold to Turbo; M10 x 1.5 x 50.0
				,
<b>QTY</b> 2	FREEZE PLUGS Pipe Plug	PART NO. FP-8923313	SIZE	<b>DESCRIPTION</b> Cylinder head; 3/4"
QTY	VALVE	PART NO.	SIZE	DESCRIPTION
12	Intake	FP-23529004 *		
12	Intake	FP-8929589 +		30 deg. seat; 1.7320" Head Dia., .3421" Stem Dia., 8.4980" O.A.L.; When depleted use FP-23529629
12	Intake	FP-23529629		30 deg. seat; 30 Deg. seat
12	Exhaust	FP-23524521		Engs. from 1991; EMS-247 Material; Chrome plated stem
12	Exhaust	FP-23529596		Engs. from 2002; 30 Deg. seat; Pyromet 31, Chrome plated stem; 1.5530" Head Dia., .3430" Stem Dia., 8.4710" O.A.L.
12 12	Exhaust Exhaust	FP-23506350 + FP-23525179		Identification H; When depleted use FP-23524521  Marine Engs. only; Pyromet 31, Stellite material; w/Seal groove; Chrome plated stem; 1.5580" Head Dia., .3420" Stem Dia., 8.5030" O.A.L.
12	Exhaust	FP-8929590		30 deg. seat; Identification U; Engs. to 1991; To Ser. No. 6R37024; 1.5760" Head Dia., .3421" Stem Dia., 8.4980" O.A.L.
12	Exhaust Valve Kit	FP-23507504		Identification H; Incl. FP-23524521 valve, valve seal, keeper & rotocap
12	Exhaust Valve Kit	FP-23501577		Identification U; Incl. valve, valve seal, keeper & rotocap
12	Intake Valve Kit	FP-23501576		Incl. FP-23529629 valve, valve seal, keeper & rotocap
48	Keeper	FP-8929573		
<b>QTY</b> 12	VALVE SEAT Exh.	PART NO. FP-8929126	SIZE	<b>DESCRIPTION</b> Std. Depth; 6.261MM - 6.363MM thick; 1.6285" OD, 1.3591" ID,
12	Exh.	FP-8929630		.2485" Depth U/S Depth; 5.499MM - 5.601MM thick; 1.6285" OD, 1.3591" ID,
12	Exh.	FP-8929629		.2185" Depth U/S Depth; 5.753MM - 5.855MM thick; 1.6285" OD, 1.3591" ID,
12	Exh.	FP-8929628		.2285" Depth U/S Depth; 6.007MM - 6.109MM thick; 1.6285" OD, 1.3591" ID, .2385" Depth
12	Int.	FP-8929127		Std. Depth; 7.155MM - 7.251MM thick; 1.8195" OD, 1.5710" ID, .2837" Depth
12	Int.	FP-8929627		U/S Depth; 6.393MM - 6.495MM thick; 1.8195" OD, 1.5710" ID, .2537" Depth
12	Int.	FP-8929626		U/S Depth; 6.647MM - 6.749MM thick; 1.8195" OD, 1.5710" ID, .2637" Depth
12	Int.	FP-8929625		U/S Depth; 6.901MM - 7.003MM thick; 1.8195" OD, 1.5710" ID, .2737" Depth
QTY	VALVE GUIDE	PART NO.	SIZE	DESCRIPTION
24	Guide	FP-23533552		Exh. & Int.; Powdered Metal replacement
				•



<b>7</b> (cor	7 Multi-Purpose Engines Series 60 Eng. (11.1L) (cont.) 11.1L 677 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore					
	CYL. HEAD & PARTS (cont.)					
QTY	VALVE GUIDE (cont.)	PART NO.	SIZE	DESCRIPTION		
24 24	Guide Guide	FP-23518571 FP-23518572		Exh. & Int.; 14.30MM - 14.32MM Dia.		
	VALVE SPRING		CIZE	Exh. & Int.; 14.43MM - 14.45MM Dia.		
12	Spring	PART NO. FP-23530359	SIZE	DESCRIPTION Exh.; 3.1500" Free Height		
24	Spring	FP-8929415		Exh. & Int.; Yellow stripe		
QTY	VALVE MISC.	PART NO.	SIZE	DESCRIPTION		
24	Rotocap	FP-8929105		Harris Transfer and Inc.		
10	Isolator, Rocker Cover Bolt Isolator, Rocker Cover Bolt	FP-23517911 FP-8929255		Use w/Two piece rocker cover 1.735" OD; One-piece rubber		
4	Isolator, Rocker Cover Bolt	FP-23517912		1.756" OD; One-piece rubber with metal washer		
12	Adj. Screw	FP-23520818		Int. valve adjusting		
1	Crankcase Breather	FP-5101760	0175	4"		
24	VALVE SEAL Valve Stem Seal	PART NO. FP-23523930	SIZE	DESCRIPTION		
	ROCKER PARTS	PART NO.	SIZE	DESCRIPTION		
30	Nut	FP-23514371		Arm adj. screw; 3/8" - 24 UNF		
12	Rocker Bushing	FP-8929059		Length 15MM		
12 30	Rocker Bushing Valve Button	FP-8929536 FP-5138643		Length 20MM Arm adj. screw		
	IGNITION			7 daji 55.51.		
OTV	IGNITION	PART NO.	SIZE	DESCRIPTION		
4	Bolt	FP-11504822	OILL	ECM mounting plate; M8 x 1.25 x 30MM		
8	Isolator Bushing	FP-23502879		ECM mounting; DDECII		
8	Isolator Bushing	FP-23512307		ECM mounting; DDECIII		
	ELECTRICAL					
	ELECTRICAL Bolt	PART NO.	SIZE	<b>DESCRIPTION</b> Tach drive cover; M8 x 1.25 x 30MM		
5	Gasket	FP-11504822 FP-8929130		Tach drive cover		
	INT & EXH MANIFOLDS					
	INT. & EXH. MANIFOLDS	PART NO.	SIZE	DESCRIPTION		
12	Bolt	FP-8929357		Manifold to head; M10 x 1.5 x 1.20		
3	Exhaust Manifold Gasket Air Intake Gasket	FP-23511666 FP-23517875				
3		FF-23317673				
OTV	CAMSHAFT GROUP TIMING	DART NO	CIZE	DESCRIPTION		
2	Dowel Pin	PART NO. FP-8929015	SIZE	Gear case housing; 16MM; Circular shaped		
1	Bushing	FP-8929108		Cam gear		
1	Pipe Plug	FP-8924517		Gear case cover; 3/8" x 18 square head		
	CAMSHAFT/LIFTER	PART NO.	SIZE	DESCRIPTION  Release short through plates MO at 1 OF at COMM		
2	Bolt Sealing Ring	FP-11504822 FP-23521935		Balance shaft thrust plate; M8 x 1.25 x 30MM Thrust plate; Cylinder head		
1	O-Ring	FP-23528491		Thrust plate; Gear housing		
1	Oil Seal	FP-8929740		Cap bearing seal; .134" x .074" x .480"		
2	Oil Seal Oil Seal	FP-23522975 FP-23521894		Front cap seal Thrust plate; Cylinder head		
	ACCESSORY DRIVE					
	ACCESSORY DRIVE	PART NO.	SIZE	DESCRIPTION		
1	Lock Ring	FP-23509204	J	Accessory drive		
1	Lock Ring	FP-23511746		Accessory gear		
1 1	Lock Ring Lock Ring	FP-8929062 FP-23505643		Air compressor Power steering pump		
1	Ball Brg.	FP-23518178		Accessory drive		
1	Ball Brg.	FP-23509203		Accessory gear shaft		
1 1	Ball Brg. Ball Brg.	FP-23503704 FP-23503535		Fan shaft inner Fan shaft outer		
1	Cylindrical Brg.	FP-23511745		Accessory drive		
2	Snap Ring	FP-8929064		Accessory drive; 3.121" OD		
1	Retaining Ring	FP-8929216		Accessory drive; 1.618" OD		
1 1	Retaining Ring O-Ring	FP-8929063 FP-8929253		Accessory drive; 3.734" OD Acc. drive cover; .139" x 4.609" ID		
1	Gasket	FP-8929130		Upper right rear & cam access cover		
1	Gasket	FP-8929299		Acc. drive front		





Multi-Purpose Engines Series 60 Eng. (11.1L) 11.1L 677 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore (cont.) **ACCESSORY DRIVE (cont.)** QTY ACCESSORY DRIVE (cont.) PART NO. SIZE DESCRIPTION Oil Seal 484156V Viton® Redi-Sleeve 99133 Use w/FP-8929154 seal 1 Oil Seal FP-23511747 Accessory drive 1 1 Oil Seal FP-8929154 Oil accessory drive; Also available as National No. 484156V AIR COMPRESSOR QTY AIR COMPRESSOR PART NO. SIZE DESCRIPTION Ball Brg. FP-8929820 **Drive Coupling** FP-5141773 Air compressor drive Gasket FP-8929299 Drive housing 1 Accessory Drive Gasket FP-23515145 1 **FUEL SYSTEM & PARTS** QTY FUEL INJECTION **DESCRIPTION** PART NO. FP-23515470 Fuel Injector Seal Ring Injector hole tube Fuel Injector Seal Ring FP-5234699 2 Lower Fuel Injector Seal Ring FP-5234702 Upper Injector Hole Tube Kit FP-23501580 6 6 Adj. Screw FP-23520820 Injector adjusting 6 Bolt FP-8929393 Injector clamp QTY FUEL FILTERS & PUMP DESCRIPTION PART NO. SIZE Fuel Pump Coupling FP-23505249 For high capacity fuel pump FP-8929479 For std. capacity fuel pump Fuel Pump Coupling Fuel Pump Coupling FP-8929787 15.875MM ID Fuel Pump Drive FP-23511964 For std. capacity fuel pump 1 Fuel Pump Hub FP-8929480 12.70MM ID 1 Fuel Pump Gear FP-23506546 Drive gear; .375 1 Fuel Pump Gear FP-23511959 Driven gear; .275 Fuel Pump Drive Shaft 1 FP-23506545 Drive shaft Fuel Pump Drive Shaft FP-23506549 Driven shaft Fuel Pump Check Valve Injector check valve 1 FP-8923528 Fuel Pump Spacer FP-23506560 Relief Valve 1 Sealing Ring FP-23506556 Relief valve 1 Cylindrical Brg. FP-8923526 Fuel pump shaft 1 5 Bolt FP-11504822 Fuel pump drive assy.; M8 x 1.25 x 30MM Fuel Pump Repair Part FP-23506564 Relief valve shear pin 1 Fuel Pump Body Plug FP-23506553 O-Rina FP-8929253 Fuel cover: .139" x 4.609" ID 1 O-Ring 1 FP-23524657 Fuel/water separator Fuel Pump Drive Adapter Gskt. 1 FP-5150193 Fuel Pump Gasket FP-23505248 Fuel pump mounting QTY TURBOCHARGER PART NO. DESCRIPTION Turbocharger Exhaust Gasket FP-8929529 Inlet connection 1 Turbocharger Oil Return Gskt. FP-8929285 **GOVERNOR** QTY GOVERNOR PART NO. SIZE **DESCRIPTION** Mechanical governor weight Retaining Ring FP-9411502 COOLING SYSTEM QTY WATER PUMP SIZE DESCRIPTION PART NO. Water Pump - Heavy Duty FP-23526039 Hi-Flow w/heat sink rotor Water Pump Shaft FP-8929157 Front mounted pumps Water Pump Shaft FP-23505896 Gear case mounted pumps 1 Water Pump Impeller Use w/Front mounted pumps FP-8929512 Water Pump Impeller FP-23517973 Use w/Gear case mounted pumps Water Pump Repair/Rebuild Kit FP-23509105 Incl. FP23505024 and FP23512048 plate seals. 1 Water Pump Cover FP-8922383 Non-metallic; Non-Metallic Woodruff Key FP-8929334 FWP shaft 1 Water Pump Retainer Ring 1 FP-8929427 Bearing & seal Water Pump Retainer Ring 1 FP-8922407 FWP cover Water Pump Mech. Shaft Seal FP-23522433 Unitized seal 1 Ball Brg. FP-8929422 Water pump shaft Lock Nut FP-11509584 1 Water pump Water Pump Gasket FP-23507073 1 1 Water Pump Seal Ring FP-8929158 Water pump; Front mounted pumps Water Pump Seal Ring FP-23520377 Water pump; Gear case mounted pumps Water Pump Seal Ring FP-8929510 Water pump cover; Front mounted pumps



7 Multi-Purpose Engines Series 60 Eng. (11.1L) (cont.) 11.1L 677 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore

COOLING SYSTEM (cont.)  OIT WATER PUMP (reart.)  IT WATER PUMP (reart.)  OI Seal  FP-9829134  I Oil Seal  FP-11504822  Bott  FP-11504822  Bott  FP-11504822  FR-11504824  I Retaining Ring  FP-9829216  FP-98292816  FP-11504827  Silicone Hose  FP-9829875  FP-11504827  Silicone Hose  FP-11504822  FP-11504822  FP-11504822  FP-11504822  FP-11504822  FP-11504822  FP-11504822  FP-11504823  I Thermostal  FP-23508225  FP-11504825  FP-11504825  I Thermostal  FP-23508225  FP-11504825  FP-11504822  F	(55)	n., 11:12 077 00110 14100 Blood 20	(= : : :::: 3); : : : : : : :	5.0	
1   0   Seal		COOLING SYSTEM (cont.)			
1   0   Seal	QTY	WATER PUMP (cont.)	PART NO.	SIZF	DESCRIPTION
1   Oil Seal		, ,		0.22	
1   0   Seal   FP-8929134   Water pump; Lip type; Also available as National No. 4458V   Vition®   FP-2351048   FP-2351048   FP-2351048   FP-2351048   FP-2351048   FP-2351048   FP-23505024   FP-11504822   FP-11504822   FP-11504822   FP-8929063   FP-89					
1   Oil Seal   4458V					•
1	1				
1	1	Oil Seal	4458V		Viton®
Solit	1	O-Ring	FP-23512048		Water pump cover; Gear case mounted pumps; 4.77" OD
Solit	1	O-Ring	FP-23505024		Water pump cover: 4.218" OD
2   Bolt	l I	· ·			
1   Retaining Ring					
Relatining Ring					
Internation					
2   Silicone Hose   FP-9829875   Water pump to cooler	1	Retaining Ring	FP-8929063		Fan drive; 3.734" OD
2   Silicone Hose   FP-9829875   Water pump to cooler	QTY	HOSES	PART NO.	SIZE	DESCRIPTION
2   Silicone Hose					Water bypass tube: 1.750" ID x 3.250" Length
THERMOSTAT					
1 Thermostat 1 Davel Pla 1 Dav			FF-23300323		
1 Thermostat 1 Thermostat 1 Thermostat 1 Thermostat 2 Oil Seal 2 Oil Seal 3 FP-23503825 5 FP-23503825 6 FP-23503825 7 FP-3512155  ENGINE BLOCK & PARTS  OITY GASKETS 2 PART NO. 1 Oil Pan Gasket 3 FP-2351242 1 Oil Pan Gasket 4 FP-2351242 1 Oil Pan Gasket 5 FP-2351242 1 Oil Pan Isolator Bushing 6 FP-2351242 1 Oil Seal 6 Bolt 7 Copper Washer 1 Oil Seal 7 FP-3513842 1 Oil Seal 7 FP-3513842 1 Oil Seal 7 FP-3513842 2 Oil Seal 7 FP-3513842 3 FP-3513842 3 FP-3513842 3 FP-3513842 4 Oil gauge adapter 6 Block to gear case; 134* x. 074* x. 480*  OTY GASKET ST	QTY	THERMOSTAT	PART NO.	SIZE	DESCRIPTION
1 Thermostat 1 Thermostat 1 Thermostat 1 Thermostat 1 Thermostat Kit 2 Oil Seal 3 Description 3 Size Description 3 Size Description 4 Standard oil pan; Gray silicone 4 Use for oil pan w/o cord modified seal system 4 Oil Pan Gasket 5 P-2351242 5 Oil Seal 6 FP-3151424 6 Bolt 7 Oil Pan Isolator Bushing 7 P-2351242 7 Oil Seal 7 Complete Overhaul Gasket Set 7 P-23513842 7 Complete Overhaul Gasket Set 7 P-23512332 7 Dowel Pin 8 Dowel Pin 9 Dowel Pin 9 Dowel Pin 9 Dowel Pin 1 Dowel Pin 2 Dowel Pin 1 Dowel Pin 2 Dowel Pin 2 Dowel Pin 3 Cam Brg 4 Cam Brg 5 Cam Brg 7 Cam Brg 8 FP-8929692 7 Cam Brg 9 FP-8929692 7 Cam Brg 1 Coolers & FILTERS 1 Oil Cooler 1 P-892903 1 Oil Cooler 1 P-892903 1 Oil Cooler Seaket Kit 1 Oil Cooler 2 P-8547025 3 PART NO. 3 IZE 4 Description 4 plate 8 plate 8 plate 8 plate 8 plate 8 plate 9 Description 9 Core housing, Old design housing-to-core gaskets 1 Oil Cooler Seaket FP-892903 1 Pipe Plug 1 P-892903 1 Pipe Plug 1 P-892903 1 Pipe Plug 1 P-892303 1 P-892303 1 P-892303 1 Pipe Plug 1 P-892303 1 Oil Cooler Seal Ring 1 P-892303 1 Pipe Plug 1 P-892303 1 Oil Cooler Seaket FP-89231559 1 Direction Size 1 Description 1 Oil Cooler 2 P-8547025 3 PART NO. 4 Direction Seaket 5 P-8547025 5 P-8547025 6 P-8547025 7 Core housing, Old design Core housing, Oil design Core housing, New design Core housing, Oil Cooler Seaket FP-8923130 1 Oil Seal Kit 1 Oil Seal Kit 1 PART NO. 1	1	Thermostat	FP-23503827		Type 481: 160 Deg
Thermostat till					
Thermostat Kit   FP-23332436   FP-5132155					
2   Oil Seal   FP-5132155					
Cary   Casset   Cas		Thermostat Kit	FP-23532436		Thermostat & seal incl.
QTY   GASKETS	2	Oil Seal	FP-5132155		
QTY   GASKETS		ENGINE DI COV O DADTO			
1 Oil Pan Gasket					
1 Oil Pan Boslator Bushing 1 Oil Pan Isolator Bushing 1 Oil Pan Isolator Bushing 1 PP-23517242 1 Di Bolt 1 Copper Washer 1 Oil Seal 1 PP-23513842 1 Oil Seal 1 PP-8929740 2 PP-8929740 2 PP-8929740 2 PP-8929740 3 PP-89299740 3 PP-89299974 4 PP-89299740 4 PP-892999740 4 PP-89299740 4 PP-892999740 4 PP-89299740 4 PP-892999740 4 PP-89299740	QTY		PART NO.	SIZE	
1 Oil Pan Boslator Bushing 1 Oil Pan Isolator Bushing 1 Oil Pan Isolator Bushing 1 P-23517242 1 Copper Washer 1 Oil Seal 1 Copper Washer 1 Oil Seal 1 Copper Washer 1 Oil Seal 1 Copper Washer 2 P-8929740 2 P-8929740 3 P-892999 3 P-892999 4 P-892999 5 P-8929999 5 P-892999	1	Oil Pan Gasket	FP-8929102		Standard oil pan; Gray silicone
Oil Pan Isolator Bushing					
10   Bolt					222 .2. on pair in a cora modifica coal ayotom
1 Copper Washer Oil Seal FP-8929740 Oil Seal FP-8929740 Block to gear case; .134" x .074" x .480"  Complete Overhaul Gasket Set FP-25523232 DESCRIPTION Incl. Blue Seal® Gasket Design head gasket Incl. Blue Seal® Gasket Incl. Both New and Old design housing-to-core gaskets Oil cooler housing Incl. Both New and Old design housing-to-core gaskets Oil cooler housing Incl. Both New and Old design housing-to-core gaskets Oil cooler housing Incl. both New and Old design housing-to-core gaskets Oil cooler housing Incl. both New and Old design housing-to-core gaskets Oil cooler housing Incl. both New and Old design housing-to-core gaskets Oil cooler housing Incl. both New and Old design housing-to-core gaskets Oil c	l I				Ollman
1 Oil Seal FP-8929740 Block to gear case; :134" x .074" x .480"  OTY GASKET SETS PART NO. 1 Complete Overhaul Gasket Set FP-23532333 Incl. Blue Seal® Gasket Design head gasket  OTY DOWEL PINS PART NO. 1					
GTY   GASKET SETS   PART NO.   Incl. Blue Seal® Gasket Design head gasket	1	• •	FP-23513842		
1 Complete Overhaul Gasket Set   P-23532332 Incl. Blue Seal® Gasket Design head gasket  OTY   DOWEL PINS	1	Oil Seal	FP-8929740		Block to gear case; .134" x .074" x .480"
1 Complete Overhaul Gasket Set   P-23532332 Incl. Blue Seal® Gasket Design head gasket  OTY   DOWEL PINS	OTY	GASKET SETS	PART NO	SIZE	DESCRIPTION
DOWEL PINS   Dowel Pin   FP-8929015   16MM; Circular shaped   20MM; Circular	l I		_	OILL	
Dowel Pin   FP-8929015   16MM; Circular shaped   Dowel Pin   FP-8929022   16MM; Diamond shape   20MM; Circular s		<u>'</u>			
Dowel Pin   FP-8929152   16MM; Diamond shape   20MM; Circular shap	QTY	DOWEL PINS	PART NO.	SIZE	DESCRIPTION
Dowel Pin   FP-8929152   16MM; Diamond shape   20MM; Circular shap	1	Dowel Pin	FP-8929015		16MM; Circular shaped
Dowel Pin   FP-8929152   20MM; Circular shape	2	Dowel Pin			
CAM BEARINGS					
To   Cam Brg.   FP-8929691   STD					
T	QTY	CAM BEARINGS	PART NO.	SIZE	DESCRIPTION
To   Cam Brg.   FP-8929691   .254MM   FP-8929692   .508MM   FP-8929693   .762MM   FP-8547625   4 plate   4 plate   4 plate   8 plate   6 Bolt   FP-8547626   8 plate   Transfer cooler adapter housing; M8 x 1.25 x 30MM   Incl. both New and Old design housing-to-core gaskets   FP-892989   Oil cooler housing   Oil Cooler Core Gasket   FP-8929348   Core housing; Old design   Oil cooler housing   Core housing; Old design   Oil cooler housing   FP-8929280   Oil cooler housing   Core housing; Old design   Oil cooler   FP-25506247   FP-25506247   Filter adapter housing   Core housing; New design   Oil cooler   FP-8926993   1/4" X 18; Recessed socket head   FP-8923313   Block; 3/4"   Oil Filler Cap   FP-8923313   Block; 3/4"   Oil Filler Cap   FP-5117362   ESCRIPTION   Chain, Oil Filler Cap   FP-5117362   ESCRIPTION   Cankshaft   FP-23515597   SIZE   DESCRIPTION   1 Crankshaft   FP-23515597   SIZE   DESCRIPTION   1 Oil Seal Kit   FP-23518355   SIZE   DESCRIPTION   1 Oil Seal Kit   FP-23513578   Discorriging   FP-89218180   FP-892513578   TP-892518180   FP-23516969   FP-12516969   FP-1261696   FP-1261696   FP-12616969   FP-1261696   FP-126	7	Cam Brg.	FP-8929690	STD	
T	7	Cam Brg.	FP-8929691	.254MM	
Toll Cooler   FP-8929693   .762MM	l I	ŭ .			
OTY OIL COOLERS & FILTERS  Oil Cooler  Oil Cooler  FP-8547625  Bolt  Oil Cooler Gasket Kit  Oil Cooler Gasket Kit  O-Ring  Rect. or Square Seal  Oil Cooler Seal Ring  FP-23508392  Oil Cooler Seal Ring  FP-23508392  Oil Cooler Seal Ring  FP-8929348  Oil Cooler Seal Ring  FP-8929348  Oil Cooler Seal Ring  FP-8929349  Oil Cooler Seal Ring  FP-8929340  Oil Cooler Seal Ring  FP-892930  Oil Cooler Seal Ring  FP-8929303  Oil Cooler Seal Ring  FP-8929303  Oil Cooler Nousing; New design  Oil Cooler Seal Ring  FP-8929303  Oil Cooler Nousing; New design  Oil Cooler Seal Ring  FP-8929303  Oil Cooler Nousing; New design  Oil Cooler Seal Ring  FP-8929303  Oil Cooler Nousing; New design  Oil Cooler Nousing  Oil Cooler					
1 Oil Cooler FP-8547625			FF-0929093		
1 Oil Cooler 6 Bolt FP-8547626 FP-11504822 Transfer cooler adapter housing; M8 x 1.25 x 30MM 1 Oil Cooler Gasket Kit FP-23537789 Incl. both New and Old design housing-to-core gaskets Oil cooler housing Core housing; Old design Oil cooler Seal FP-8929280 Oil cooler FP-8929280 Oil cooler Seal Ring Core housing; Old design Oil cooler Seal Ring Gasket FP-8929381 FP-23508392 Filter adapter housing Core housing; Old design Oil cooler Filter adapter housing Core housing; New design  Oil cooler Filter adapter housing Core housing; New design  SIZE DESCRIPTION 1 Pipe Plug FP-8923313 FP-892393 FP-8923313 FP-892393 FP-892393 FP-8923930 FP-8923930 FP-8923313 FP-8923928 FP-8923313 FP-89	QTY	OIL COOLERS & FILTERS	PART NO.	SIZE	DESCRIPTION
1 Oil Cooler 6 Bolt FP-8547626 FP-11504822 Transfer cooler adapter housing; M8 x 1.25 x 30MM 1 Oil Cooler Gasket Kit FP-23537789 Incl. both New and Old design housing-to-core gaskets Oil cooler housing Core housing; Old design Oil cooler Seal FP-8929280 Oil cooler FP-8929280 Oil cooler Seal Ring Core housing; Old design Oil cooler Seal Ring Gasket FP-8929381 FP-23508392 Filter adapter housing Core housing; Old design Oil cooler Filter adapter housing Core housing; New design  Oil cooler Filter adapter housing Core housing; New design  SIZE DESCRIPTION 1 Pipe Plug FP-8923313 FP-892393 FP-8923313 FP-892393 FP-892393 FP-8923930 FP-8923930 FP-8923313 FP-8923928 FP-8923313 FP-89	1	Oil Cooler	FP-8547625		4 plate
6 Bolt FP-11504822 Transfer cooler adapter housing; M8 x 1.25 x 30MM Incl. both New and Old design housing-to-core gaskets Oil cooler housing Core housing; Old design housing-to-core gaskets Oil cooler housing; Old design housing-to-core gaskets Oil cooler housing; Old design Oil cooler for housing;					•
1 Oil Cooler Gasket Kit 2 O-Ring 5 P-8929289 1 Oil Cooler Core Gasket 2 Rect. or Square Seal 2 Oil Cooler Seal Ring 3 Gasket 4 FP-8929280 5 Oil Cooler Seal Ring 5 FP-8929280 6 Oil Cooler Seal Ring 7 Gasket 7 FREEZE PLUGS 8 PART NO. 9 Pipe Plug 9 FP-8923313 1 Pipe Plug 9 FP-8923313 1 Pipe Plug 9 FP-8923313 1 Pipe Rous 1 Oil Filler Cap 2 FP-5117362 2 FIRENKSHAFT 5 PART NO. 5 IZE 5 DESCRIPTION 6 SIZE 5 DESCRIPTION 6 SIZE 5 DESCRIPTION 7 SIZE 7 DESCRIPTION 8 SIZE 8 DESCRIPTION 9 SIZE 8 DESCRIPTION 9 SIZE 9 DESCRIPTION 1 Crankshaft 9 PART NO. 1 Oil Seal Kit 9 P-23518355 9 DESCRIPTION 1 Oil Seal Kit 9 P-235183578 1 Double lip wrap around 9 TFE lip; Also available as National No. 5424					•
2 O-Ring FP-8929289 Oil cooler housing 1 Oil Cooler Core Gasket FP-8929348 Core housing; Old design 2 Rect. or Square Seal FP-8929280 Oil cooler 2 Oil Cooler Seal Ring FP-23508392 Filter adapter housing 3 Gasket FP-23508247 Core housing; New design  OTY FREEZE PLUGS PART NO. 1 Pipe Plug FP-8926993 I/4" X 18; Recessed socket head 2 Pipe Plug FP-8923313 Block; 3/4"  OTY MISCELLANEOUS PART NO. 1 Chain, Oil Filler Cap FP-5117362 DESCRIPTION 1 Oil Filler Cap FP-5117362 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT PART NO. 1 Crankshaft PART NO. 2 SIZE DESCRIPTION 3 SIZE DESCRIPTION 4 CRANKSHAFT PART NO. 5 SIZE DESCRIPTION 5 SIZE DESCRIPTION 6 S" Length 7 Length 7 Length 8 SIZE DESCRIPTION 9 SIZE DESCRIPTION 9 SIZE DESCRIPTION 9 SIZE DESCRIPTION 1 Crankshaft PART NO. 1 Oil Seal Kit FP-23518355 SIZE DESCRIPTION 1 Oil Seal Kit FP-23518578 Double lip wrap around 9 TFFE lip; Also available as National No. 5424					
1 Oil Cooler Core Gasket RP-8929348 Core housing; Old design Oil cooler Core Nature Seal PP-8929280 Oil cooler PP-3508392 Filter adapter housing Core housing; New design Oil cooler FP-23506247 Core housing; New design PP-8926947 Core housing; New design PP-8926993 New					
2 Rect. or Square Seal Oil Cooler Seal Ring FP-8929280 FP-23508392 Filter adapter housing Core housing; New design  QTY FREEZE PLUGS Plug FP-8926993 Slze DESCRIPTION 1 Pipe Plug FP-892313 Block; 3/4"  QTY MISCELLANEOUS PF-5121989 FP-5117362 DESCRIPTION 1 Oil Filler Cap FP-5117362 DESCRIPTION 2 CRANKSHAFT PART NO. SIZE DESCRIPTION 6.5" Length 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT PART NO. SIZE DESCRIPTION 6.5" Length 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT PART NO. SIZE DESCRIPTION 12 hole  CRANKSHAFT PART NO. SIZE DESCRIPTION 12 hole  CTY SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION 12 hole  QTY SEALS - FRONT CRANK PART NO. SIZE DESCRIPTION 15 hole  OII Seal Kit FP-23513578 DESCRIPTION 10 DOUBLE IIP wrap around 10 DOUBLE IIP wrap around 10 DOUBLE IIP wrap around 10 DOUBLE IIP; Also available as National No. 5424	l I				
2 Oil Cooler Seal Ring Gasket FP-23508392 Filter adapter housing Core housing; New design  QTY FREEZE PLUGS Plug FP-8926993 1/4" X 18; Recessed socket head Block; 3/4"  QTY MISCELLANEOUS PP-5121989 6.5" Length 0il Filler Cap FP-5117362 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. 12 hole  QTY SEALS - FRONT CRANK PART NO. Oil Seal Kit FP-23513578 Oil Seal Kit FP-23513578 Double lip wrap around PTFE lip; Also available as National No. 5424	1		FP-8929348		Core housing; Old design
2 Oil Cooler Seal Ring Gasket FP-23508392 Filter adapter housing Core housing; New design  QTY FREEZE PLUGS Plug FP-8926993 1/4" X 18; Recessed socket head Block; 3/4"  QTY MISCELLANEOUS PP-5121989 6.5" Length 0il Filler Cap FP-5117362 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. 12 hole  QTY SEALS - FRONT CRANK PART NO. Oil Seal Kit FP-23513578 Oil Seal Kit FP-23513578 Double lip wrap around PTFE lip; Also available as National No. 5424	2	Rect. or Square Seal	FP-8929280		Oil cooler
1 Gasket FP-23506247 Core housing; New design  QTY FREEZE PLUGS PART NO. Pipe Plug FP-8926993 1/4" X 18; Recessed socket head Block; 3/4"  QTY MISCELLANEOUS PART NO. Chain, Oil Filler Cap FP-5121989 6.5" Length 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. SIZE DESCRIPTION 12 hole  QTY CRANKSHAFT PART NO. SIZE DESCRIPTION 12 hole  QTY SEALS - FRONT CRANK PART NO. Oil Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. Oil Seal Kit FP-23513578 Double lip wrap around PTFE lip; Also available as National No. 5424					
PART NO. 1 Pipe Plug FP-8926993 FP-8923313 Block; 3/4"  QTY MISCELLANEOUS PART NO. 1 Chain, Oil Filler Cap FP-5121989 FP-5117362 ECRIPTION 1 Oil Filler Cap FP-5117362 ECRIPTION 1 Crankshaft PART NO. 1 Crankshaft FP-23515597 SIZE DESCRIPTION 1 Crankshaft FP-23518355 EDESCRIPTION 1 Oil Seal Kit FP-23513578 DESCRIPTION 1 Oil Seal Kit FP-23516969 SIZE DESCRIPTION 1 Oil Seal Kit FP-23516969  PART NO. SIZE DESCRIPTION 1 DESCRIPTION 1 DESCRIPTION 1 DESCRIPTION 1 Double lip wrap around 1 Double lip wrap around 1 PTFE lip; Also available as National No. 5424	l I				
1 Pipe Plug FP-8926993 1/4" X 18; Recessed socket head Block; 3/4"  QTY MISCELLANEOUS PART NO. Chain, Oil Filler Cap FP-5121989 6.5" Length 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. 1 Crankshaft FP-23515597 12 hole  QTY SEALS - FRONT CRANK PART NO. Oil Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. 1 Oil Seal Kit FP-23516969  QTY SEALS - REAR CRANK PART NO. Double lip wrap around PTFE lip; Also available as National No. 5424					<u> </u>
1 Pipe Plug FP-8923313 Block; 3/4"  QTY MISCELLANEOUS PART NO. Chain, Oil Filler Cap FP-5121989 FP-5117362 CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. Torankshaft FP-23515597 SEALS - FRONT CRANK Oil Seal Kit FP-23518355 PART NO. Oil Seal Kit FP-23513578 Oil Seal Kit FP-23516969 PTFE lip; Also available as National No. 5424	QTY		PART NO.	SIZE	DESCRIPTION
1 Pipe Plug FP-8923313 Block; 3/4"  QTY MISCELLANEOUS PART NO. SIZE DESCRIPTION 1 Chain, Oil Filler Cap FP-5121989 6.5" Length 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. 12 hole  QTY SEALS - FRONT CRANK PART NO. Oil Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. 1 Oil Seal Kit FP-23513578 Dissel Kit FP-23513578 Double lip wrap around PTFE lip; Also available as National No. 5424			FP-8926993		1/4" X 18; Recessed socket head
QTY MISCELLANEOUS FP-5121989 FP-5121989 G.5" Length 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. Torankshaft FP-23515597 SEALS - FRONT CRANK Oil Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. To SIZE DESCRIPTION 1 Oil Seal Kit FP-23513578 Oil Seal Kit FP-23516969  QTY SEALS - REAR CRANK PART NO. To SIZE DESCRIPTION Double lip wrap around PTFE lip; Also available as National No. 5424					· ·
1 Chain, Oil Filler Cap FP-5121989 FP-5117362		<u> </u>		6:==	· · · · · · · · · · · · · · · · · · ·
1 Oil Filler Cap FP-5117362 2.00" Dia.; Thermos Bottle Style  CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. 12 hole  QTY SEALS - FRONT CRANK PART NO. 10 il Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. 10 il Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. 10 il Seal Kit FP-235183578 Double lip wrap around PTFE lip; Also available as National No. 5424				SIZE	
CRANKSHAFT/OIL PUMP  QTY CRANKSHAFT PART NO. 12 hole  QTY SEALS - FRONT CRANK PART NO. 10 iSeal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. 10 iSeal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. 10 iSeal Kit FP-235183578 Description Double lip wrap around PTFE lip; Also available as National No. 5424					
QTYCRANKSHAFT CrankshaftPART NO. FP-23515597SIZEDESCRIPTION 12 holeQTYSEALS - FRONT CRANK 1 Oil Seal KitPART NO. FP-23518355SIZEDESCRIPTIONQTYSEALS - REAR CRANK 1 Oil Seal KitPART NO. FP-23513578 Oil Seal KitSIZEDESCRIPTION Double lip wrap around PTFE lip; Also available as National No. 5424	1	Oil Filler Cap	FP-5117362		2.00" Dia.; Thermos Bottle Style
QTY 1CRANKSHAFT CrankshaftPART NO. FP-23515597SIZE 12 holeDESCRIPTION 12 holeQTY 1SEALS - FRONT CRANK Oil Seal KitPART NO. FP-23518355SIZEDESCRIPTIONQTY 1SEALS - REAR CRANK Oil Seal KitPART NO. FP-23513578 Oil Seal KitSIZEDESCRIPTION Double lip wrap around PTFE lip; Also available as National No. 5424		CRANKSHAFT/OII DIIMD			
1 Crankshaft FP-23515597 12 hole  QTY SEALS - FRONT CRANK PART NO. 1 Oil Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. 1 Oil Seal Kit FP-23513578 Description 1 Oil Seal Kit FP-23516969 Double lip wrap around PTFE lip; Also available as National No. 5424			DADTAG	0:==	DECODIDATION
QTY SEALS - FRONT CRANK PART NO. Oil Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. Oil Seal Kit FP-23513578 Oil Seal Kit FP-23516969 Oil Seal Kit FP-23516969 Double lip wrap around PTFE lip; Also available as National No. 5424				SIZE	
1         Oil Seal Kit         FP-23518355           QTY         SEALS - REAR CRANK         PART NO.         SIZE         DESCRIPTION           1         Oil Seal Kit         FP-23513578         Double lip wrap around           1         Oil Seal Kit         FP-23516969         PTFE lip; Also available as National No. 5424	1	Crankshaft	FP-23515597		12 hole
1 Oil Seal Kit FP-23518355  QTY SEALS - REAR CRANK PART NO. SIZE DESCRIPTION 1 Oil Seal Kit FP-23513578 Double lip wrap around 1 Oil Seal Kit FP-23516969 PTFE lip; Also available as National No. 5424	QTY	SEALS - FRONT CRANK	PART NO.	SIZE	DESCRIPTION
QTY SEALS - REAR CRANK PART NO. SIZE DESCRIPTION  1 Oil Seal Kit FP-23513578 Double lip wrap around  1 Oil Seal Kit FP-23516969 PTFE lip; Also available as National No. 5424				J	<del></del> <del></del>
1 Oil Seal Kit FP-23513578 Double lip wrap around 1 Oil Seal Kit FP-23516969 PTFE lip; Also available as National No. 5424				0175	DECODIDATION
1 Oil Seal Kit FP-23516969 PTFE lip; Also available as National No. 5424				SIZE	
	1	Oil Seal Kit	FP-23513578		
	1	Oil Seal Kit	FP-23516969		PTFE lip; Also available as National No. 5424
1   1   O   Ocal Nit	1	Oil Seal Kit	5424		•
(continued on next page)	•	- **********			



Multi-Purpose Engines Series 60 Eng. (11.1L) 7
11.1L 677 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore (cont.)

CRANKSHAFT/OL PUMP (cont.)   PAGT NO.   SIZE DESCRIPTION   Without continued to the process of				11.1L 0	77 SONG Turbo-Diesei Lo (24 vaive), 130mm Bore (cont.)
6   Washer		CRANKSHAFT/OIL PUMP (cont.)			
S   Washer   FP-5133981			PART NO.	SIZE	DESCRIPTION
1 Main Set				_	Vibration damper; .122" Thick
1 Main Set	QTY	MAIN BEARINGS	PART NO.	SIZE	DESCRIPTION
1 Main Set	1			_	-
1 Main Set	1	Main Set		.254MM	
1 Main Set         7363M s.mro         When depleted use FP-7363M           6 Plaim Main Brg.         FP-8929671A         2544M           Plaim Main Brg.         FP-8929671A         2544M           Plaim Main Brg.         FP-8929672A         7,000M           F Plaim Main Brg.         FP-89296802         2,000M           F Ranged Main Brg.         FP-8929681         2,000M           F Ranged Main Brg.         FP-8929681         2,000M           F Ranged Main Brg.         FP-8929682         2,000M           F Ranged Main Brg.         FP-8929681         2,000M           F Ranged Main Brg.         FP-8929682         2,000M           F Ranged Main Brg.         FP-8929681         2,000M           F Ranged Main Brg.         FP-8929681         2,000M           F Ranged Main Brg.         FP-8929686         7,000M           F Ranged Main Brg.         FP-8929686         7,000M           F Proposition Main Main Main Main Main Main Main Mai					
6 Plaim Main Brg. FP-8929671A FP Pag39671A FP Pag39671A FP Pag39671A FP Pag39671A FP Pag39671A FP Pag39671A FP Pag39672A FP Pag39672A FP Pag39672A FP Pag39673A FP Pag39683 FP Pag3968				.762MM	
6 Plain Main Brg.				OTD	When depleted use FP-7363M
6 Plain Main Brū. Plain Main Brū. Plaingad Main Brū. FP-8829680 STD Flaingad Main Brū. FP-8829681 S70 FP-8829682 S70 FP-8829682 S70 FP-8829683 STD FRIEDRICK FP-8829682 S70 FRIEDRICK FP-8829682 S70 FRIEDRICK FP-8829683 S70 FRIEDRICK FP-8829683 S70 FRIEDRICK FP-8829685 S70 FRIEDRICK FP-8829687 S70 FRIEDRICK FP-8929687 S70					
6   Plain Main Brg.   P-8929673A   .782MM     Flanged Main Brg.   P-8929681   254MM     Flanged Main Brg.   P-8929681   254MM     Flanged Main Brg.   P-8929683   .782MM     Flanged Main Brg.   P-8929683   .782MM     Lower End Bearing Kit   P-23531605   .782MM     Lower End Bearing Kit   P-23531605   .782MM     Thrust Washer Set   P-8929085   .782MM     Thrust Washer Set   P-8929085   .782MM     Thrust Washer P-8929085   .782MM     Thrust Washer P-8929085   .772MM     Thrust Washer P-8929688   .782MM     Thrust Washer   P-8929689   .772MM     Diversive Regulator Valve   P-8929740   .772MM     Diversive Regulator Valve   P-9829740   .772MM     Diversive Regu					
1   Flanged Main Brg.					
1 Flanged Main Brg.					
1   Flanged Main Brg.   FP-9829682   .506MM     1   Lower End Bearing Kit   FP-23531604					
1   Lower End Bearing Kit   FP-93951605   Incl. 1.7100" or 43.430MM O.A.L. rod bearings; Incl. Rod & Main bearings, Thrust Washers Set   FP-9395085   FP-9892085   Thrust Washer Set   FP-9892085   Thrust Washer   FP-9892095   Thrust Washer   FP-9892096   Thrust Washer   FP-9892095   Thrust Washer   FP-9892095   Thrust Washer   FP-9892095   Thrust Washer   FP-9892090   Thrust Washer   Thrust Was					
1	1			.762MM	
1   Lower End Bearing Kit   FP-23531605   Thrust Washer St   FP-8929085   STD   Position Upper   Position	1	Lower End Bearing Kit	FP-23531604		Incl. 1.7100" or 43.430MM O.A.L. rod bearings; Incl. Rod & Main
1 Thrust Washer   FP-892088S   STD   Position Upper   Thrust Washer   FP-8920898   STD   Position Upper   Thrust Washer   Thrust Washer   FP-8920898   STD   Position Upper   Thrust Washer   Th					
2   Thrust Washer   FP-8929087   127MM   Position Upper   127MM oversize   2   Thrust Washer   FP-8929697   127MM   Position Upper   127MM oversize   2   Thrust Washer   FP-8929698   254MM   Position Upper   127MM oversize   2   Thrust Washer   FP-8929698   254MM   Position Upper   127MM oversize   2   Doll PUMP   PART NO.   SIZE   DESCRIPTION   3   Bushing   FP-8922740   PP-8922740   Dil pump   125MM bore   22.27MM Shaft, 11.5MM Length   Dil pump   25MM bore   22.27MM Shaft, 11.5MM Length   Dil pump   22.27MM Shaft					
2 Thrust Washer   PR-8929698   254MM   Position Upper; 127MM oversize	1				
2   Thrust Washer					
OIL PUMP					
1					
1   Bushing	1			SIZE	DESCRIPTION
1   Bushing   FP-23505879   Oil pump; 25MM Bore, 22.27MM Shaft, 11.5MM Length   Oulted bypass valve; 70 iia, 2.96* Length   Inlet tube; M8 x 1.25 x 30MM   Outlet pipe; M8 x 1.25 x 30MM   Outlet pipe; M8 x 1.25 x 30MM   Pressure regulator; M8 x 1.25 x					Oil numn
1   Oil Pump Spring					
1   Bolt					
Bolt					
2 Bolt FP-11504822 Pressure regulator; M8 x 1.25 x 30MM PD Bolt FP-11504822 Pressure regulator; M8 x 1.25 x 30MM Screen bracket; M8 x 1.25 x 30MM Screen bracket; M8 x 1.25 x 30MM PD Bolt Pump Intake Gasket FP-8929344 Pump to block PP-8929347 Pump to block PP-8929342 Pimp to block PP-8929342 Pump to block PP-8929342 Pimp to block PP-8929342 PP-8929342 PP-8929342 Pimp to block PP-8929342 PP-89293					
1 Bolt FP-11504822 Screen bracket; M8 x 1.25 x 30MM 1 Oil Pump Intake Gasket FP-8929344 Oil Pump to block 1 Oil Pump Utlet Gasket FP-8929347 1 Rect. or Square Seal FP-8929341 Oil filter 1 Rect. or Square Seal FP-8929340 Oil filter bypass 1 Oil Intel Elbow Gasket FP-23505992 Intel tube to pump 1 Lo Press, Reg. Body Gasket FP-8929302 Fill tube adapter 2 Gasket FP-8929302 Oil filter cover 3 Gasket FP-8929302 Oil filter adapter 3 Oil Filter Seal Ring FP-8929342 Oil filter adapter 4 Oil Filter Seal Ring FP-8929342 Oil filter adapter 5 Oil Filter Seal Ring FP-8929342 Oil filter adapter 6 Oil Filter Wo Sealing Rings FP-23511574 Oil filter adapter 7 Liner Wo Sealing Rings FP-23532461 FP-23532461 Iner incl. 8 Liner Wo Sealing Rings FP-23532449 FP-23532464 Iner incl. 9 Cylinder Kit Complete FP-23532591 STD Engs. W/Standard liner; 3.50MM top ring; Round piston design Cylinder Kit Complete FP-23532591 STD Engs. W/Standard liner; 3.50MM top ring; When depleted use FP-23532564 FP-23532591 STD Engs. W/Standard liner; 3.50MM top ring; Domed piston design Cylinder Kit Complete FP-23532558 STD Engs. W/Standard liner; 3.50MM top ring; Domed piston design Cylinder Kit Complete FP-23532558 STD Engs. W/Standard liner; 3.50MM top ring; Domed piston design Cylinder Kit Complete FP-23532558 STD Engs. W/Standard liner; 3.50MM top ring; Domed piston design Cylinder Kit Complete FP-23532555 STD Engs. W/Standard liner; 3.50MM top ring; Domed piston design Cylinder Kit Complete FP-23532555 STD Engs. W/Top Liner Cooling (TLC); 2.50MM top ring; Domed piston design Cylinder Kit Complete FP-23532555 STD Engs. W/Top Liner Cooling (TLC); 3.50MM top ring Cylinder Kit Complete FP-23532555 STD Engs. W/Top Liner Cooling (TLC); 3.50MM top ring Cylinder Ring Shim FP-20044 31 .031" Thick 6 Cylinder Kit Complete FP-235325500 FP-20042 STD Engs. W/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design Cylinder Ring Shim FP-20044 31 .031" Thick 6 Cylinder Kit Wyln & Retainers FP-23519646 STD Engs. W/Top Liner Cooling (TLC); 2.50MM top ring; Oval pisto	2	Bolt	FP-11504822		Pressure regulator; M8 x 1.25 x 30MM
1 Oil Pump Intake Gasket FP-8929344 Pump to block 1 Oil Pump Outlet Gasket FP-8929347 Oil filter 1 Rect. or Square Seal FP-8929341 Oil filter bypass 1 Rect. or Square Seal FP-8929340 Oil filter bypass 1 Oil Intel Elibow Gasket FP-23505992 Inlet tube to pump 1 Gasket FP-8929302 Fill tube adapter 2 Gasket FP-8929302 Fill tube adapter 3 Gasket FP-8929302 Oil filter cover 3 Oil Filter Seal Ring FP-8929302 Oil filter adapter 4 Oil Filter Seal Ring FP-23511574 Oil offilter adapter 5 Oil Filter Seal Ring FP-23511574 Oil offilter adapter 6 CYLINDER COMPONENTS  CTY LINERS PART NO. 6 Liner w/Sealing Rings FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532590 STD Engs. w/Standard liner; 2.50MM top ring; Round piston design Cylinder Kit Complete FP-23532591 STD Engs. w/Standard liner; 2.50MM top ring; Round piston design Cylinder Kit Complete FP-23532591 STD Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532551 Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532551 FP-23532559 STD Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532551 Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532551 Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532551 Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Domed piston design 6 Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design 1 Cylinder Kit Complete FP-23532556 STD Engs. w/Top Liner Cooling (TLC); 3.50MM top ring Flange Shim FP-20044 PP-20045 RP-20045 RP	2	Bolt	FP-11504822		
1 Oil Pump Outlet Gasket FP-8929347 1 Rect. or Square Seal FP-8929341 Oil filter bypass Inlet tube to pump Inlet Elbow Gasket FP-23505992 Inlet tube to pump Inlet Elbow Gasket FP-8929302 Oil filter cover Gasket FP-8929302 Oil filter cover Oil filter Seal Ring FP-8929302 Oil filter cover Oil filter Seal Ring FP-8929302 Oil filter cover Oil filter Gatapter Oil drain; 1/2" pipe thread; w/1" Square head FP-8929302 Oil filter cover Oil filter adapter Oil drain; 1/2" pipe thread; w/1" Square head FP-8929302 Oil filter cover Oil filter adapter Oil drain; 1/2" pipe thread; w/1" Square head FP-8929302 Oil filter adapter Oil drain; 1/2" pipe thread; w/1" Square head FP-8929302 Oil filter adapter Oil drain; 1/2" pipe thread; w/1" Square head FP-8929302 Oil filter adapter Oil drain; 1/2" pipe thread; w/1" Square head FP-8929302 Oil filter adapter Oil drain; 1/2" pipe thread; w/1" Square head FP-8929302 Oil filter adapter Oil drain; 1/2" pipe thread; w/1" Square head FP-24510246 Oil drain; 1/2" pipe thread; w/1" Square head FP-245104 Oil drain; 1/2" pipe thread; w/1" Square head FP-235104 Oil filter Cover Oil filter Cover Oil filter Cover Oil filter Cover Oil filter Square head FP-2353266 Oil filter incl. FP-2353266 Oil filter incl. FP-2353266 Oil filter incl. FP-2353266 Oil filter oil filter Oil filter Cover Oil filter Cover FP-2353266 Oil filter incl. FP-2353266 Oil filter incl. FP-2353266 Oil filter oil filter Oil filter Cover FP-2353266 Oil filter oil filter Oil filter Cover Oil filter Cover Oil filter Oil filter Oil filter Cover Special filter incl. FP-2353266 Oil filter Oil f					·
Rect. or Square Seal   FP-8929341   Oil filter   FP-8929340   Oil filter bypass   Inlet tube to pump					Pump to block
1 Rect. or Square Seal FP-8829340 Oil filter bypass Inlet tube to pump 1 Do Press. Reg. Body Gasket FP-3505992 Inlet tube to pump 1 Lo Press. Reg. Body Gasket FP-8929302 Oil filter cover 1 Gasket FP-8929302 Oil filter cover 2 Oil Filter Seal Ring FP-8929342 Oil filter cover 3 Oil Filter Seal Ring FP-8929342 Oil filter adapter 4 Pipe Plug FP-23511574 Oil drain; 1/2" pipe thread; w/1" Square head  CYLINDER COMPONENTS  OTY LINERS PART NO. Engs. w/Standard liner 6 Liner w/o Sealing Rings FP-23532361 FP-23532468 FP-23532468 FP-23532468 FP-23532469 FP-23532469 FP-23532464 liner incl. 6 Cylinder Kit Complete FP-23532590 STD Engs. w/Standard liner; 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532591 STD Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532591 STD Engs. w/Standard liner; 3.50MM top ring; Domed piston design 6 Cylinder Kit Complete FP-23532558 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Pound piston design 6 Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532556 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532556 STD Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design 7 Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design 8 Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design 9 Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 1 Crevice seal D-ring seal 1 Contr. Bore Insert FP-20044 Standard Insert FP-20044 Standard Insert FP-20044 Standard Insert FP-20042 Piston Kit w/Pin & Retainers FP-23519646 Standard Insert FP-23519646 Standard Insert FP-23519640 Standard Insert FP-23519640 Standard Insert FP-3519640 Standard Insert FP-35196					01.50
1 Oil Inlet Elbow Gasket FP-23506992 Inlet tube to pump 1 Lo Press. Reg. Body Gasket FP-5117269 FP-8929302 Fill tube adapter 2 Gasket FP-8929302 Oil filter cover Oil filter cover Oil filter cover Oil filter adapter 3 Oil filter Seal Ring FP-8929342 Oil filter adapter Oil drain; 1/2" pipe thread; w/1" Square head  CYLINDER COMPONENTS  CYLINERS PART NO. 6 Liner w/Sealing Rings FP-23532361 Engs. w/Standard liner FP-23532261 Engs. w/Standard liner FP-23532261 Engs. w/Standard liner; 2.50MM top ring; Round piston design Cylinder Kit Complete FP-23532590 STD Engs. w/Standard liner; 2.50MM top ring; When depleted use FP-23532591 STD Engs. w/Standard liner; 2.50MM top ring; When depleted use FP-23532591 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Domed piston design Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Crevice seal Pre-2352550 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design Engs Shim FP-2352550 Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Crevice seal Prince Sealing Ring, Liner FP-8929013 Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Crevice seal Prince Sealing Ring, Liner FP-8929176 Prince Sealing Ring, Liner FP-8929176 Prince Cooling (TLC); 2.50MM top ring; Crevice seal Prince Sealing Ring, Liner FP-8929176 Prince Cooling (TLC); 2.50MM top ring; Crevice seal Prince Sealing Ring, Liner FP-8929176 Prince Cooling (TLC); 2.50MM top ring; Crevice seal Prince Sealing Ring, Liner FP-8929176 Prince Cooling (TLC); 2.50MM top ring; Crevice seal Prince Sealing Ring, Liner FP-23525500 Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Crevice seal Prince Sealing Ring, Liner FP-23525500 Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Crevice seal Prince Retainers FP-23525601 Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Crevice Seal Prince Retainers FP-23524601 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Crevice Seal Prince					
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Table   Tabl					Fill tube adapter
Tyling Plug Plug Plug Plug Plug Plug Plug Plu					·
CYLINDER COMPONENTS  CYLINDER COMPONENTS  CYLINDERS PART NO. Liner w/o Sealing Rings Liner w/Sealing Rings Cylinder Kit Complete Cylinder Kit Complete Cylinder Kit Complete FP-23532591 Cylinder Kit Complete FP-23532550 Cylinder Kit Complete FP-23532551 Cylinder Kit Complete FP-23532555 Cylinder Kit Complete FP-23532555 Cylinder Kit Complete FP-23532555 S7D Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Domed piston design Cylinder Kit Complete FP-23532555 S7D Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design Cylinder Kit Complete FP-23532555 S7D Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design Cylinder Kit Complete FP-23532556 S7D Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design Cylinder Kit Complete FP-23532556 FP-2352556 S7D Engs. w/Top Liner Cooling (TLC); 3.50MM top ring Crevice seal D-ring seal ST-P-23525500 FP-23525500 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring Crevice seal D-ring seal Crevice seal D-ring seal Crevice seal D-ring seal ST-P-23525500 FP-23525500 ST-P-23525500 FP-23525500 FP-23525500 FP-23525500 FP-23525500 FP-23525500 FP-23525500 FP-23525500 FP-23525500 FP-23525500 FP-23525600 FP-23525500 FP-23525600 FP-2352601 FP-235					
CYLINDER COMPONENTS  OTY LINERS  Liner W/o Sealing Rings Liner w/Sealing Rings Rings Liner w/Sealing Rings Rings Liner w/Sealing Rings Rings Liner w/Sealing Rings Rings Rings Rings Liner w/Sealing Rings Liner w/Sealing Rings Liner heaven w/Sealiner w/Sealing Rings Liner heaven w/Sealiner heaven w/Sealiner heaven w/Sealing Rings Liner heaven w/Sealing Rings Liner heaven w/Sealing Rings Liner heaven w/Sealing Rings Liner heaven w/Sealiner heaven w/Sealing Rings Liner heaven w/Sealing Rings w/Sealing Rings Lin					
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6 Liner w/o Sealing Rings FP-23532361 FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532468 FP-23532361 liner incl. 6 Cylinder Kit Complete FP-23532590 STD Engs. w/Standard liner; 2.50MM top ring; Round piston design Cylinder Kit Complete FP-23532591 STD Engs. w/Standard liner; 3.50MM top ring PP-23532591 STD Engs. w/Standard liner; 3.50MM top ring PP-23532591 STD Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532591 STD Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532591 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Domed piston design 6 Cylinder Kit Complete FP-23532557 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design 6 Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532556 STD Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design 7 Crevice seal D-ring Seal D-r			DARTNO	0:==	DECORIDATION
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6 Cylinder Kit Complete FP-23532558 Cylinder Kit Complete FP-23532558 Cylinder Kit Complete FP-23532558 Cylinder Kit Complete FP-23532558 Cylinder Kit Complete FP-23532557 FP-23532557 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Domed piston design Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design Crevice seal P-23532556 FP-23532556 FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design Crevice seal D-ring seal S-rinck Engs. w/Top Liner Cooling (TLC); 3.50MM top ring Crevice seal D-ring seal D-ring seal D-ring seal S-rinck S-	1				
FP-23532558  Cylinder Kit Complete  FP-23532558  Cylinder Kit Complete  FP-23532557  Cylinder Kit Complete  FP-23532557  Cylinder Kit Complete  FP-23532557  Cylinder Kit Complete  FP-23532555  STD  Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design  Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design  Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design  Cylinder Kit Complete  FP-23532555  STD  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design  Crevice seal  12 Sealing Ring, Liner  FP-8929176  Flange Shim  FP-20044  FP-20044  FP-20044  FP-20045  Contr. Bore Insert  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring  Crevice seal  D-ring seal  1.031" Thick  6 Contr. Bore Insert  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring  FP-20042  CTY  PISTONS  PART NO.  FP-23524601  FP-23524601  FP-23519646  STD  Engs. w/Domed piston & 2.50MM top ring  Engs. w/Domed piston & 2.50MM top ring; Oval piston  STD  Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Down of the piston	1				
piston design  Cylinder Kit Complete  FP-23532557  Cylinder Kit Complete  FP-23532555  Cylinder Kit Complete  FP-23532555  Cylinder Kit Complete  FP-23532555  STD  Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design  Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring  Crevice seal  D-ring seal  Flange Shim  FP-20044  FP-20045  FP-20045  Cntr. Bore Insert  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring  Crevice seal  D-ring seal  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring  Engs. w/Top Liner Cooling (TLC); 3.50MM top ring  Engs. w/Domed piston & 2.50MM top ring  Engs. w/Domed piston & 2.50MM top ring; Oval piston		·		2.2	FP-23532591
6 Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design 6 Cylinder Kit Complete FP-23532556 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532556 STD Engs. w/Top Liner Cooling (TLC); 3.50MM top ring; Round piston design 6 Sealing Ring, Liner FP-8929013 Crevice seal D-ring seal 7 Sealing Ring, Liner FP-8929176 D-ring seal 8 Flange Shim FP-20044 31 .031" Thick 9 Flange Shim FP-20045 62 .062" Thick 9 Cntr. Bore Insert FP-20042  CTY PISTONS PART NO. SIZE DESCRIPTION 9 Piston Kit w/Pin & Retainers FP-23524601 FP-23519646 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston	6	Cylinder Kit Complete	FP-23532558	STD	
design  Cylinder Kit Complete  FP-23532555  Cylinder Kit Complete  FP-23532556  Cylinder Kit Complete  FP-23532556  STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design  Crevice seal  D-ring seal  FP-892913  FP-892913  Crevice seal  D-ring seal  Flange Shim  FP-20044  FP-20045  Flange Shim  FP-20045  Cntr. Bore Insert  Lower Block Bore Sleeve  FP-20042  FP-20042  PISTONS  PART NO.  Piston Kit w/Pin & Retainers  FP-23524601  FP-23519646  STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston  D-ring seal  D-ring seal  Size DESCRIPTION  Engs. w/Domed piston & 2.50MM top ring  FP-23524601  STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston					
6 Cylinder Kit Complete FP-23532555 STD Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Round piston design 6 Cylinder Kit Complete FP-23532556 STD Engs. w/Top Liner Cooling (TLC); 3.50MM top ring 6 Sealing Ring, Liner FP-8929013 Crevice seal 12 Sealing Ring, Liner FP-8929176 D-ring seal 6 Flange Shim FP-20044 31 .031" Thick 6 Flange Shim FP-20045 62 .062" Thick 6 Cntr. Bore Insert FP-23525500 Engs. w/Top Liner Cooling (TLC); 3.50MM top ring 6 Crevice seal D-ring seal 7 D-ring seal 62 .062" Thick 8 Contr. Bore Insert FP-2045 62 .062" Thick 9 PISTONS PART NO. SIZE DESCRIPTION 9 PISTONS PART NO. SIZE DESCRIPTION Engs. w/Domed piston & 2.50MM top ring 9 FP-23524601 STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	6	Cylinder Kit Complete	FP-23532557	STD	
design   design   design   Grevice		Cylinder Kit Complete	ED 22520555	CTD	
6 Cylinder Kit Complete FP-23532556 STD Engs. w/Top Liner Cooling (TLC); 3.50MM top ring 6 Sealing Ring, Liner FP-8929013 Crevice seal 12 Sealing Ring, Liner FP-8929176 D-ring seal 6 Flange Shim FP-20044 31 .031" Thick 6 Flange Shim FP-20045 62 .062" Thick 6 Cntr. Bore Insert FP-23525500 E Lower Block Bore Sleeve FP-20042  QTY PISTONS PART NO. SIZE DESCRIPTION 6 Piston Kit w/Pin & Retainers FP-23524601 STD Engs. w/Top Liner Cooling (TLC); 3.50MM top ring Crevice seal D-ring seal 31 .031" Thick 6 2 .062" Thick SIZE DESCRIPTION Engs. w/Domed piston & 2.50MM top ring FP-23524601 STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	6	Cylinaer Kit Complete	FP-23532555	SID	
6 Sealing Ring, Liner FP-8929013 Crevice seal 12 Sealing Ring, Liner FP-8929176 D-ring seal 6 Flange Shim FP-20044 31 .031" Thick 6 Flange Shim FP-20045 62 .062" Thick 6 Cntr. Bore Insert FP-23525500 6 Lower Block Bore Sleeve FP-20042  QTY PISTONS PART NO. SIZE DESCRIPTION 6 Piston Kit w/Pin & Retainers FP-23524601 STD Engs. w/Domed piston & 2.50MM top ring 6 Piston Kit w/Pin & Retainers FP-23519646 STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	6	Cylinder Kit Complete	FP-23532556	STD	3
12         Sealing Ring, Liner         FP-8929176         D-ring seal           6         Flange Shim         FP-20044         31         .031" Thick           6         Flange Shim         FP-20045         62         .062" Thick           6         Cntr. Bore Insert         FP-23525500         FP-20042           QTY PISTONS         PART NO.         SIZE DESCRIPTION           6         Piston Kit w/Pin & Retainers         FP-23524601         STD Engs. w/Domed piston & 2.50MM top ring           6         Piston Kit w/Pin & Retainers         FP-23519646         STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	1			טוט	
6 Flange Shim FP-20044 31 .031" Thick 6 Flange Shim FP-20045 62 .062" Thick 6 Cntr. Bore Insert FP-23525500 6 Lower Block Bore Sleeve FP-20042  QTY PISTONS PART NO. SIZE DESCRIPTION 6 Piston Kit w/Pin & Retainers FP-23524601 STD Engs. w/Domed piston & 2.50MM top ring FP-23519646 STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	1				
6 Flange Shim FP-20045 62 .062" Thick Cntr. Bore Insert FP-23525500 ED Lower Block Bore Sleeve FP-20042  QTY PISTONS PART NO. SIZE DESCRIPTION 6 Piston Kit w/Pin & Retainers FP-23524601 FP-23524601 STD Engs. w/Domed piston & 2.50MM top ring Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	1			31	
6 Cntr. Bore Insert FP-23525500 FP-20042  QTY PISTONS PART NO. SIZE DESCRIPTION 6 Piston Kit w/Pin & Retainers FP-23524601 FP-23524601 STD Engs. w/Domed piston & 2.50MM top ring FP-23519646 STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	1				
QTYPISTONSPART NO.SIZEDESCRIPTION6Piston Kit w/Pin & RetainersFP-23524601STDEngs. w/Domed piston & 2.50MM top ring6Piston Kit w/Pin & RetainersFP-23519646STDEngs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	6	Cntr. Bore Insert	FP-23525500		
6 Piston Kit w/Pin & Retainers FP-23524601 STD Engs. w/Domed piston & 2.50MM top ring 6 Piston Kit w/Pin & Retainers FP-23519646 STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	6	Lower Block Bore Sleeve	FP-20042		
6 Piston Kit w/Pin & Retainers FP-23524601 STD Engs. w/Domed piston & 2.50MM top ring 6 Piston Kit w/Pin & Retainers FP-23519646 STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston	QTY	PISTONS	PART NO.	SIZE	DESCRIPTION
6 Piston Kit w/Pin & Retainers FP-23519646 STD Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston				STD	Engs. w/Domed piston & 2.50MM top ring
design	6	Piston Kit w/Pin & Retainers	FP-23519646	STD	Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston
					design



7 (cont.)	Multi-Purpose Engines Series 60 Eng. (11.1L) 11.1L 677 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore
C,	YLINDER COMPONENTS (cont.)

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	<b>CYLINDER COMPONENTS (cont</b>	.)						
OTV	PISTONS (cont.)	PART NO.	SIZE	DESCRIPTION				
6	Piston Kit w/Pin & Retainers	FP-23519624	_	Engs. w/Top Liner	Cooling (	TI C) & 2 50MM	1 ton ring	r: Round
	1 ISTOTI THE W/T III & THETAINETS	11-23313024	310	piston design	Cooming (	1 LO) & 2.301VIIV	ι τορ πη	y, riouria
6	Piston Kit w/Pin & Retainers	FP-23519635	CTD	Engs. w/3.50MM t	on ring			
_			310					
6	Piston Skirt	FP-23516681		Ductile iron for sta	ındard cros	ss nead piston		
6	Pin	FP-8929087						
12	Piston Pin Bolt	FP-8929337						
12	Piston Pin Bolt Spacer	FP-8929504						
6	Pin Bushing	FP-4774Y						
	CONNECTING RODS &							
QTY	BRGS.	PART NO.	SIZE	DESCRIPTION				
12	Con. Rod Bolt	FP-8929355		M14 x 1.5" x 108				
12	Con. Rod Nut	FP-8929019		M14 x 1.5				
6	Rod Pair	FP-4770P		O.A.L. 1.710" or 4	3 430MM			
6	Rod Pair	4770P + Std25MM	ı	O.A.L. 1.710" or 4		When denleted	luse FF	2-4770P
6	Rod Pair	FP-8929710		O.A.L. 1.710 or 4			1	.,,,,,,
6	Rod Pair	FP-8929711		O.A.L. 1.7100 or				
6	Rod Pair	FP-8929712		O.A.L. 1.7100 or				
6	Rod Pair							
_		FP-8929713		O.A.L. 1.7100" or				
6	Rod Pair	FP-23515581		O.A.L. 1.8670" or				
6	Rod Pair	FP-23515582		O.A.L. 1.8670" or				
6	Rod Pair	FP-23515583		O.A.L. 1.8670" or				
6	Rod Pair	FP-23515584	.762MM	O.A.L. 1.8670" or	47.430MN	1		
QTY	PISTON RINGS	PART NO.	SIZE	DESCRIPTION				
6	Ring Set Single Cylinder	FP-23503747		2.50MM top ring				
6	Ring Set Single Cylinder	FP-23505729		3.50MM top ring				
6	Compression Ring	FP-8929845		Intermediate				
6	Compression Ring	FP-8929844		Top; 2.50MM				
6	Compression Ring	FP-23504941		Top; 3.50MM				
6	Oil Ring	FP-23515500		. 00, 0.00				
6	Oil Ring Expander	FP-23529379						
	CLUTCH							
QTY	CLUTCH	PART NO.	SIZE					
1	Ball Brg.	FP-23503707		Clutch Pilot				
	KITS							
					OTY	DDEMUUM	OTY	ECONOMY.
VE	RE-RING KIT ARS DESCRIPTION				QTY	PREMIUM KIT NO.	QTY	ECONOMY KIT NO.
''-'	In-Frame Kit	ı	Do ring	Maina	1	FP-S60IFKRR	,	KII NO.
			Re-ring w/		1			
	Overhaul Kit		Re-ring w/		- 1	FP-S60OHRR		
QTY	OVERHAUL KIT	PART NO.	SIZE	DESCRIPTION				
1	In-Frame Overhaul Kit	FP-S60						
1	In-Frame Overhaul Kit	FP-S60TLC						
1	Complete Overhaul Kit	FP-S60OH						
1	Complete Overhaul Kit	FP-S60TLCOH						
	'							
8	Multi-Purpose Engines Seri	es 60 Eng. (12	2.7L)					

## 12.7L 774 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore

		1 //	
	CYL. HEAD & PARTS		
QTY	GASKETS	PART NO. SIZ	ZE DESCRIPTION
1	Valve Cover Gasket	FP-23506153	Intermediate to upper rocker cover gskt.; 98.38" circumference; Diamond shaped 0.146" thick; For 3 piece cover; Use w/O.E. No. 23505973 rocker cover
1	Valve Cover Gasket	FP-23511992	Intermediate to upper rocker cover gskt.; 98.38" circumference; Diamond shaped 0.186" thick; For all 3 piece rocker covers Exc. O.E. No. 23505973
1	Valve Cover Gasket	FP-8929803	Lower to upper rocker cover gskt.; 106.68" circumference; Diamond shaped 0.146" thick; for 2 piece cover; Use w/O.E. No. 8929653 rocker cover
1	Valve Cover Gasket	FP-23511991	Lower to upper rocker cover gskt.; 106.68" circumference; Diamond shaped 0.186" thick; For 2 piece cover
1	Valve Cover Gasket	FP-23522269	New design rocker cover; Black polyacrylate
1	Valve Cover Gasket	FP-23516322	Standard rocker cover; Gray silicone
1	Head Gasket	FP-23530421	Blue Seal® Gasket Design
1	Head Gasket	FP-23538406	ML7 <sup>™</sup> head gasket design
1	Head Set	FP-23532333	Incl. Blue Seal® Gasket Design head gasket
1	Head Set	FP-23536442	Incl. ML7 <sup>™</sup> head gasket





Multi-Purpose Engines Series 60 Eng. (12.7L) 8 12.7L 774 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore (cont.)

			12./L /	74 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore (cont.)
	CYL. HEAD & PARTS (cont.)			
QTY 1	GASKETS (cont.) Breather Seal Ring	PART NO. FP-5103646	SIZE	DESCRIPTION
<b>QTY</b> 38	HEAD BOLTS Head Bolt	PART NO. FP-23530768	SIZE	
1 38	Head Bolt Set Washer	FP-HBS002 FP-8929328		Incl. (38) FP-23530768, (38) FP-8929328 Cylinder head bolt
<b>QTY</b> 2 8	MISCELLANEOUS Pipe Plug Bolt	PART NO. FP-8923313 FP-11504822	SIZE	DESCRIPTION Cylinder head; 3/4" Rocker cover mntg.; M8 x 1.25 x 30MM
<b>QTY</b> 4 4	MANIFOLD STUDS Exhaust Manifold Stud Exhaust Manifold Stud	PART NO. FP-23507438 FP-8929425	SIZE	DESCRIPTION  Manifold to Turbo; M10 x 1.5 x 44.0  Manifold to Turbo; M10 x 1.5 x 50.0
<b>QTY</b> 2	FREEZE PLUGS Pipe Plug	PART NO. FP-8923313	SIZE	<b>DESCRIPTION</b> Cylinder head; 3/4"
QTY	VALVE	PART NO.	SIZE	DESCRIPTION
12	Intake	FP-8929589 +		30 deg. seat; 1.7320" Head Dia., .3421" Stem Dia., 8.4980" O.A.L.; When depleted use FP-23529629
12 12 12	Intake Exhaust Exhaust	FP-23529629 FP-23524521 FP-23529596		30 deg. seat; 30 Deg. seat Engs. from 1991; EMS-247 Material; Chrome plated stem Engs. from 2002; 30 Deg. seat; Pyromet 31, Chrome plated
12 12	Exhaust Exhaust	FP-23506350 + FP-23525179		stem; 1.5530" Head Dia., .3430" Stem Dia., 8.4710" O.A.L. Identification H; When depleted use FP-23524521 Marine Engs. only; Pyromet 31, Stellite material; w/Seal groove; Chrome plated stem; 1.5580" Head Dia., .3420" Stem Dia., 8.5030" O.A.L.
12	Exhaust	FP-8929590		30 deg. seat; Identification U; Engs. to 1991; 1.5760" Head Dia., .3421" Stem Dia., 8.4980" O.A.L.
12	Exhaust Valve Kit	FP-23507504		Identification H; Incl. FP-23524521 valve, valve seal, keeper & rotocap
12 12	Exhaust Valve Kit Intake Valve Kit	FP-23501577 FP-23501576		Identification U; Incl. valve, valve seal, keeper & rotocap Incl. FP-23529629 valve, valve seal, keeper & rotocap
48	Keeper	FP-8929573		
<b>QTY</b> 12	VALVE SEAT Exh.	PART NO. FP-8929126	SIZE	<b>DESCRIPTION</b> Std. Depth; 6.261MM - 6.363MM thick; 1.6285" OD, 1.3591" ID, .2485" Depth
12	Exh.	FP-8929630		U/S Depth; 5.499MM - 5.601MM thick; 1.6285" OD, 1.3591" ID, .2185" Depth
12	Exh.	FP-8929629		U/S Depth; 5.753MM - 5.855MM thick; 1.6285" OD, 1.3591" ID, .2285" Depth
12	Exh.	FP-8929628		U/S Depth; 6.007MM - 6.109MM thick; 1.6285" OD, 1.3591" ID, .2385" Depth
12	Int.	FP-8929127		Std. Depth; 7.155MM - 7.251MM thick; 1.8195" OD, 1.5710" ID, .2837" Depth
12	Int.	FP-8929627		U/S Depth; 6.393MM - 6.495MM thick; 1.8195" OD, 1.5710" ID, .2537" Depth
12	Int.	FP-8929626		U/S Depth; 6.647MM - 6.749MM thick; 1.8195" OD, 1.5710" ID, .2637" Depth
12	Int.	FP-8929625		U/S Depth; 6.901MM - 7.003MM thick; 1.8195" OD, 1.5710" ID, .2737" Depth
<b>QTY</b> 24	VALVE GUIDE Guide	PART NO. FP-23533552	SIZE	DESCRIPTION Exh. & Int.; Powdered Metal replacement
24	Guide	FP-2353552 FP-23518571		Exh. & Int.; 14.30MM - 14.32MM Dia.
24	Guide	FP-23518572		Exh. & Int.; 14.43MM - 14.45MM Dia.
	VALVE SPRING	PART NO.	SIZE	DESCRIPTION
12 24	Spring Spring	FP-23530359 FP-8929415		Exh.; 3.1500" Free Height Exh. & Int.; Yellow stripe
	VALVE MISC.	PART NO.	SIZE	DESCRIPTION
24 10	Rotocap Isolator, Rocker Cover Bolt	FP-8929105 FP-23517911		Exh. & Int. Use w/Two piece rocker cover
4	Isolator, Rocker Cover Bolt Isolator, Rocker Cover Bolt	FP-8929255		1.735" OD; One-piece rubber
4	Isolator, Rocker Cover Bolt	FP-23517912		1.756" OD; One-piece rubber with metal washer
12 1	Adj. Screw Crankcase Breather	FP-23520818 FP-5101760		Int. valve adjusting 4"
<b>QTY</b> 24	VALVE SEAL Valve Stem Seal	PART NO. FP-23523930	SIZE	DESCRIPTION
<b>QTY</b> 30	ROCKER PARTS Nut	PART NO. FP-23514371	SIZE	DESCRIPTION Arm adj. screw; 3/8" - 24 UNF
$\overline{}$	<u> </u>			



8	Multi-Purpose Engines Seri			
(001	CYL. HEAD & PARTS (cont.)	(24 vaive), 100mm	Doic	
QTY	ROCKER PARTS (cont.)	PART NO.	SIZE	DESCRIPTION
30	Valve Button	FP-5138643		Arm adj. screw
	IGNITION			
QTY	IGNITION	PART NO.	SIZE	DESCRIPTION
4	Bolt Indiana	FP-11504822		ECM mounting plate; M8 x 1.25 x 30MM
8	Isolator Bushing Isolator Bushing	FP-23502879 FP-23512307		ECM mounting; DDECII ECM mounting; DDECIII
	ELECTRICAL			
QTY	ELECTRICAL	PART NO.	SIZE	DESCRIPTION
5 1	Bolt	FP-11504822		Tach drive cover; M8 x 1.25 x 30MM Tach drive cover
-	Gasket	FP-8929130		Tacri drive cover
	INT & EXH MANIFOLDS			
<b>QTY</b> 12	INT. & EXH. MANIFOLDS  Bolt	PART NO. FP-8929357	SIZE	DESCRIPTION  Manifold to head; M10 x 1.5 x 1.20
3	Exhaust Manifold Gasket	FP-23511666		Walliold to fload, Wife X 1.3 X 1.20
3	Air Intake Gasket	FP-23517875		
	CAMSHAFT GROUP			
	TIMING	PART NO.	SIZE	DESCRIPTION
2	Dowel Pin Bushing	FP-8929015 FP-8929108		Gear case housing; 16MM; Circular shaped Cam gear
1	Pipe Plug	FP-8924517		Gear case cover; 3/8" x 18 square head
QTY	CAMSHAFT/LIFTER	PART NO.	SIZE	DESCRIPTION
2	Bolt	FP-11504822		Balance shaft thrust plate; M8 x 1.25 x 30MM
1 1	Sealing Ring O-Ring	FP-23521935 FP-23528491		Thrust plate; Cylinder head Thrust plate; Gear housing
	Oil Seal	FP-8929740		Cap bearing seal; .134" x .074" x .480"
2	Oil Seal	FP-23522975		Front cap seal
1	Oil Seal	FP-23521894		Thrust plate; Cylinder head
	ACCESSORY DRIVE			
	ACCESSORY DRIVE	PART NO.	SIZE	DESCRIPTION
1 1	Lock Ring Lock Ring	FP-23509204 FP-23511746		Accessory drive Accessory gear
li	Lock Ring	FP-8929062		Air compressor
1	Lock Ring	FP-23505643		Power steering pump
1	Ball Brg.	FP-23518178		Accessory drive
1	Ball Brg.	FP-23509203		Accessory gear shaft
1	Ball Brg.   Ball Brg.	FP-23503704 FP-23503535		Fan shaft inner Fan shaft outer
i	Cylindrical Brg.	FP-23511745		Accessory drive
2	Snap Ring	FP-8929064		Accessory drive; 3.121" OD
1	Retaining Ring	FP-8929216		Accessory drive; 1.618" OD
1	Retaining Ring O-Ring	FP-8929063 FP-8929253		Accessory drive; 3.734" OD Acc. drive cover; .139" x 4.609" ID
1	Gasket	FP-8929130		Upper right rear & cam access cover
1	Gasket	FP-8929299		Acc. drive front
1	Oil Seal	484156V		Viton®
1	Redi-Sleeve Oil Seal	99133 FP-23511747		Use w/FP-8929154 seal Accessory drive
1	Oil Seal	FP-23511747 FP-8929154		Oil accessory drive; Also available as National No. 484156V
	AIR COMPRESSOR			
QTY	AIR COMPRESSOR	PART NO.	SIZE	DESCRIPTION
1	Ball Brg.	FP-8929820		At a service of the s
1	Drive Coupling	FP-5141773		Air compressor drive
1	Gasket Accessory Drive Gasket	FP-8929299 FP-23515145		Drive housing Air Compressor Mntg.
	FUEL SYSTEM & PARTS			
QTY	FUEL INJECTION	PART NO.	SIZE	DESCRIPTION
6	Fuel Injector Seal Ring	FP-23515470		Injector hole tube
2	Fuel Injector Seal Ring	FP-5234699		Lower
1 6	Fuel Injector Seal Ring Injector Hole Tube Kit	FP-5234702 FP-23501580		Upper
6	Adj. Screw	FP-23501580 FP-23520820		Injector adjusting
	9 25.50	========		)





Multi-Purpose Engines Series 60 Eng. (12.7L) 8
12.7L 774 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore (cont.)

		<u>'</u>	Z./ L /	74 SOLIC Tulbo-Diesel Lo (24 valve), Isolilli Bole (cont.)
	FUEL SYSTEM & PARTS (cont.)			
	FUEL INJECTION (cont.)	PART NO.	SIZE	DESCRIPTION
6	Bolt	FP-8929393	UIZL	Injector clamp
	FUEL FILTERS & PUMP	PART NO.	SIZE	
1	Fuel Pump Coupling	FP-23505249	SIZE	For high capacity fuel pump
1	Fuel Pump Coupling	FP-8929479		For std. capacity fuel pump
	Fuel Pump Coupling	FP-8929787		15.875MM ID
1	Fuel Pump Drive	FP-23511964		For std. capacity fuel pump
1	Fuel Pump Hub	FP-8929480		12.70MM ID
1	Fuel Pump Gear	FP-23506546		Drive gear; .375
1	Fuel Pump Gear	FP-23511959		Driven gear; .275
1	Fuel Pump Drive Shaft	FP-23506545		Drive shaft
1	Fuel Pump Drive Shaft	FP-23506549		Driven shaft
1	Fuel Pump Check Valve	FP-8923528		Injector check valve
1	Fuel Pump Spacer	FP-23506560		Relief Valve
1 1	Sealing Ring	FP-23506556		Relief valve
1	Cylindrical Brg.	FP-8923526		Fuel pump shaft
5	Bolt	FP-11504822		Fuel pump drive assy.; M8 x 1.25 x 30MM
1	Fuel Pump Repair Part	FP-23506564		Relief valve shear pin
1	Fuel Pump Body Plug	FP-23506553		Fuel cover: 100" v 4 600" ID
1	O-Ring	FP-8929253		Fuel cover; .139" x 4.609" ID
1	O-Ring	FP-23524657		Fuel/water separator
1 1	Fuel Pump Drive Adapter Gskt. Fuel Pump Gasket	FP-5150193 FP-23505248		Fuel pump mounting
	•			1 1 3
	TURBOCHARGER	PART NO.	SIZE	DESCRIPTION
1	Turbocharger Exhaust Gasket	FP-8929529		Inlet connection
1	Turbocharger Oil Return Gskt.	FP-8929285		
	GOVERNOR			
	GOVERNOR	PART NO.	SIZE	DESCRIPTION
1	Retaining Ring	FP-9411502	JIZE	Mechanical governor weight
		0111002		
	COOLING SYSTEM			
	WATER PUMP	PART NO.	SIZE	
1	Water Pump - Heavy Duty	FP-23526039		Hi-Flow w/heat sink rotor
1	Water Pump Shaft	FP-8929157		Front mounted pumps
1	Water Pump Shaft	FP-23505896		Gear case mounted pumps
1	Water Pump Impeller	FP-8929512		Use w/Front mounted pumps
1	Water Pump Impeller	FP-23517973		Use w/Gear case mounted pumps
1	Water Pump Repair/Rebuild Kit	FP-23509105		Incl. FP23505024 and FP23512048 plate seals.
1	Water Pump Cover	FP-8922383		Non-metallic; Non-Metallic
1	Woodruff Key	FP-8929334		FWP shaft
1	Water Pump Retainer Ring Water Pump Retainer Ring	FP-8929427		Bearing & seal
1		FP-8922407		FWP cover
1	Water Pump Mech. Shaft Seal Ball Brg.	FP-23522433 FP-8929422		Unitized seal
	Lock Nut	FP-8929422 FP-11509584		Water pump shaft Water pump
	Water Pump Gasket			vvator purity
	Water Pump Seal Ring	FP-23507073 FP-8929158		Water pump; Front mounted pumps
1	Water Pump Seal Ring	FP-23520377		Water pump; Gear case mounted pumps
	Water Pump Seal Ring	FP-8929510		Water pump, dear case mounted pumps  Water pump cover; Front mounted pumps
Ιί	Oil Seal	FP-5103951		Fan shaft
i	Oil Seal	FP-8929213		Fan spindle
1	Oil Seal	FP-8929134		Water pump; Lip type; Also available as National No. 4458V
1	Oil Seal	4458V		Viton®
1	O-Ring	FP-23512048		Water pump cover; Gear case mounted pumps; 4.77" OD
1	O-Ring	FP-23505024		Water pump cover; 4.218" OD
5	Bolt	FP-11504822		Fan mount support; M8 x 1.25 x 30MM
2	Bolt	FP-11504822		Water pump cover; M8 x 1.25 x 30MM
1	Retaining Ring	FP-8929216		Fan drive; 1.618" OD
1	Retaining Ring	FP-8929063		Fan drive; 3.734" OD
QTY	HOSES	PART NO.	SIZE	DESCRIPTION
2	Silicone Hose	FP-8929875		Water bypass tube; 1.750" ID x 3.250" Length
2	Silicone Hose	FP-23506325		Water pump to cooler
QTY	THERMOSTAT	PART NO.	SIZE	DESCRIPTION
1	Thermostat	FP-23503827		Type 481; 160 Deg.
1	Thermostat	FP-8929878		Types 358, 439, 448, 488, 507, 511, 518, 520; 190 Deg.
1	Thermostat	FP-23503825		Types 497, 516; 180 Deg.
1	Thermostat Kit	FP-23532436		Thermostat & seal incl.
		(continue		



(cor	Multi-Purpose Engines Seri at.) 12.7L 774 SOHC Turbo-Diesel Lo	es 60 Eng. (12 6 (24 Valve), 130m	. <b>7L)</b> m Bore	
	COOLING SYSTEM (cont.)			
	THERMOSTAT (cont.)	PART NO.	SIZE	DESCRIPTION
2	Oil Seal	FP-5132155		
	ENGINE BLOCK & PARTS			
QTY 1	GASKETS Oil Pan Gasket	<i>PART NO.</i> FP-8929102	SIZE	DESCRIPTION Standard all pan: Cray ailianna
1	Oil Pan Gasket	FP-23522279		Standard oil pan; Gray silicone Use for oil pan w/o cord modified seal system
10	Oil Pan Isolator Bushing	FP-23517242		0.11
10 1	Bolt Copper Washer	FP-11504571 FP-23513842		Oil pan Oil gauge adapter
1	Oil Seal	FP-8929740		Block to gear case; .134" x .074" x .480"
<b>QTY</b> 1	GASKET SETS Complete Overhaul Gasket Set	PART NO. FP-23532332	SIZE	DESCRIPTION Incl. Blue Seal® Gasket Design head gasket
YTÇ	DOWEL PINS	PART NO.	SIZE	DESCRIPTION
1	Dowel Pin Dowel Pin	FP-8929015 FP-8929022		16MM; Circular shaped 16MM; Diamond shape
1	Dowel Pin	FP-8929152		20MM; Circular shape
YTC	CAM BEARINGS	PART NO.	SIZE	DESCRIPTION
7	Cam Brg.	FP-8929690	STD	
7 7	Cam Brg. Cam Brg.	FP-8929691 FP-8929692	.254MM .508MM	
7	Cam Brg.	FP-8929693	.762MM	
	OIL COOLERS & FILTERS	PART NO.	SIZE	DESCRIPTION
1	Oil Cooler Oil Cooler	FP-8547625 FP-8547626		4 plate 8 plate
6	Bolt	FP-11504822		Transfer cooler adapter housing; M8 x 1.25 x 30MM
1	Oil Cooler Gasket Kit	FP-23537789		Incl. both New and Old design housing-to-core gaskets
2	O-Ring Oil Cooler Core Gasket	FP-8929289 FP-8929348		Oil cooler housing
2	Rect. or Square Seal	FP-8929280		Oil cooler
2	Oil Cooler Seal Ring Gasket	FP-23508392 FP-23506247		Filter adapter housing Core housing
	FREEZE PLUGS	PART NO.	SIZE	-
1	Pipe Plug	FP-8926993		1/4" X 18; Recessed socket head
1	Pipe Plug	FP-8923313		Block; 3/4"
QTY 1	MISCELLANEOUS Chain, Oil Filler Cap	<i>PART NO.</i> FP-5121989	SIZE	<b>DESCRIPTION</b> 6.5" Length
1	Oil Filler Cap	FP-5117362		2.00" Dia.; Thermos Bottle Style
	CRANKSHAFT/OIL PUMP			
	CRANKSHAFT	PART NO.	SIZE	DESCRIPTION  6 or 10 Liels Wide Pension
1 1	Crankshaft Crankshaft	FP-23515599 FP-8929239		6 or 12 Hole, Wide Bearing 6 Hole, Narrow Bearing
1	Vibration Damper	FP-23525990		13.5" Dia., One-piece
<b>QTY</b> 1	SEALS - FRONT CRANK Oil Seal Kit	PART NO. FP-23518355	SIZE	DESCRIPTION
	SEALS - REAR CRANK	PART NO.	SIZE	DESCRIPTION
1	Oil Seal Kit Oil Seal Kit	FP-23513578 FP-23516969		Double lip wrap around PTFE lip; Also available as National No. 5424
1	Oil Seal Kit	5424		
6	Washer	FP-5133981		Vibration damper; .122" Thick
QTY 1	MAIN BEARINGS Main Set	PART NO. FP-7363M	<b>SIZE</b> STD	DESCRIPTION
1	Main Set	FP-7363M254MM	.254MM	
1	Main Set	FP-7363M508MM	.508MM	
1 1	Main Set Main Set	<b>FP-7363M762MM 7363M +</b> Std-10	.762MM	When depleted use FP-7363M
6	Plain Main Brg.	FP-8929670A	STD	•
6 6	Plain Main Brg. Plain Main Brg.	FP-8929671A FP-8929672A	.254MM .508MM	
6	Plain Main Brg. Plain Main Brg.	FP-8929673A	.762MM	
1	Flanged Main Brg.	FP-8929680	STD	
1	Flanged Main Brg. Flanged Main Brg.	FP-8929681 FP-8929682	.254MM .508MM	
1	Flanged Main Brg.	FP-8929683	.762MM	
1	Lower End Bearing Kit	FP-23531604		Incl. 1.7100" or 43.430MM O.A.L. rod bearings; Incl. Rod & Main
			od on nov	bearings, Thrust Washers, Lower Gaskets, Exc. Oil Pan



Multi-Purpose Engines Series 60 Eng. (12.7L) 8
12.7L 774 SOHC Turbo-Diesel L6 (24 Valve), 130mm Bore (cont.)

			12.72 7	Control raise Biodei Ed (E1 vaive), Toomin Bote (cont.)
	CRANKSHAFT/OIL PUMP (cont.)			
QTY	MAIN BEARINGS (cont.)	PART NO.	SIZE	DESCRIPTION
1	Lower End Bearing Kit	FP-23531605		Incl. 1.8670" or 47.430MM O.A.L. rod bearings
2	Thrust Washer	FP-8929697	.127MM	Position Upper; .127MM oversize
2	Thrust Washer	FP-8929698	.254MM	Position Upper; .254MM oversize
QTY	OIL PUMP	PART NO.	SIZE	DESCRIPTION
1	Lo Pressure Regulator Valve	FP-8922740		
1	Bushing	FP-5127978		Oil pump
1	Bushing	FP-23505879		Oil pump; 25MM Bore, 22.27MM Shaft, 11.5MM Length
1	Oil Pump Spring	FP-5126327		Outlet bypass valve; .790" Dia., 2.96" Length
1	Bolt	FP-11504822		Inlet tube; M8 x 1.25 x 30MM
4	Bolt	FP-11504822		Outlet pipe; M8 x 1.25 x 30MM
2	Bolt	FP-11504822		Pressure regulator; M8 x 1.25 x 30MM
2	Bolt	FP-11504822		Pressure relief vlv.; M8 x 1.25 x 30MM
1	Bolt	FP-11504822		Screen bracket; M8 x 1.25 x 30MM
1	Oil Pump Intake Gasket	FP-8929344		Pump to block
1	Oil Pump Outlet Gasket	FP-8929347		
1	Rect. or Square Seal	FP-5141452		Gear Case Cover
1	Rect. or Square Seal	FP-8929341		Oil filter
1	Rect. or Square Seal	FP-8929340		Oil filter bypass
1	Oil Inlet Elbow Gasket	FP-23505992		Inlet tube to pump
1	Lo Press. Reg. Body Gasket	FP-5117269		
1	Gasket	FP-8929302		Fill tube adapter
1	Gasket	FP-8929302		Oil filter cover
1	Oil Filter Seal Ring	FP-8929342		Oil filter adapter
1	Pipe Plug	FP-23511574		Oil drain; 1/2" pipe thread; w/1" Square head
•	CYLINDER COMPONENTS			
	LINERS	PART NO.	SIZE	DESCRIPTION
6	Liner w/o Sealing Rings	FP-23532361	SIZE	Engs. w/Standard liner
6	Liner w/o Sealing Rings Liner w/Sealing Rings	FP-23532361 FP-23532468		FP-23532361 liner incl.
6	Liner w/Sealing Rings	FP-23532400 FP-23531249		FP-23534264 liner incl.
6	Cylinder Kit Complete	FP-23532561	STD	Articulated piston design; 15.0:1 C.R.; Heavy pin; To Sept. 2002
6	Cylinder Kit Complete	FP-23532883		Articulated piston design; 15.0:1 C.R.; Light pin; To Sept. 2002; 26MM Pin ID
6	Cylinder Kit Complete	FP-23532554	STD	Articulated piston design; 16.5:1 C.R.; Heavy pin; From Sept. 2002
6	Cylinder Kit Complete	FP-23537594	STD	Articulated piston design; 16.5:1 C.R.; Light pin; From Sept. 2002
6	Cylinder Kit Complete	FP-23532590	STD	
6	Cylinder Kit Complete	FP-23532591	STD	Engs. w/Standard liner; 3.50MM top ring
6	Cylinder Kit Complete	FP-23519637		Engs. w/Standard liner; 3.50MM top ring; When depleted use FP-23532591
6	Cylinder Kit Complete	FP-23532558		Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Domed piston design
6	Cylinder Kit Complete	FP-23532557	STD	Engs. w/Top Liner Cooling (TLC); 2.50MM top ring; Oval piston design
6	Cylinder Kit Complete	FP-23532555	STD	design
6	Cylinder Kit Complete	FP-23532556	STD	Engs. w/Top Liner Cooling (TLC); 3.50MM top ring
6	Sealing Ring, Liner	FP-8929013		Crevice seal
12	Sealing Ring, Liner	FP-8929176		D-ring seal
6	Flange Shim	FP-20044		.031" Thick
6	Flange Shim	FP-20045	62	.062" Thick
6	Cntr. Bore Insert	FP-23525500		Upper bore repair bushing to repair block deck
6	Lower Block Bore Sleeve	FP-20042		
	PISTONS	PART NO.	SIZE	DESCRIPTION
6	Piston Kit w/Pin & Retainers	FP-23524601	STD	Engs. w/Domed piston & 2.50MM top ring
6	Piston Kit w/Pin & Retainers	FP-23519646		Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Oval piston design
6	Piston Kit w/Pin & Retainers	FP-23519624		Engs. w/Top Liner Cooling (TLC) & 2.50MM top ring; Round piston design
ı		FP-23519635	STD	Engs. w/3.50MM top ring
6	Piston Kit w/Pin & Retainers			Alimeticine altitut for formed atom branch and in the clothest whether
6	Piston Skirt	FP-23521802		Aluminum skirt for forged steel crown articulated piston
6 6				Ductile iron for standard cross head piston
6 6 6	Piston Skirt Piston Skirt Pin	FP-23521802		Ductile iron for standard cross head piston Hollow pin w/0.866" (22MM) I.D.; Articulated piston; Heavy pin
6 6 6	Piston Skirt Piston Skirt Pin Pin	FP-23521802 FP-23516681 FP-23525168 FP-23521649		Ductile iron for standard cross head piston Hollow pin w/0.866" (22MM) I.D.; Articulated piston; Heavy pin Hollow pin w/1.020" (26MM) I.D.; Articulated piston
6 6 6 6	Piston Skirt Piston Skirt Pin Pin Pin Pin	FP-23521802 FP-23516681 FP-23525168 FP-23521649 FP-8929087		Ductile iron for standard cross head piston Hollow pin w/0.866" (22MM) I.D.; Articulated piston; Heavy pin Hollow pin w/1.020" (26MM) I.D.; Articulated piston Use w/Cross Head pistons
6 6 6 6 12	Piston Skirt Piston Skirt Pin Pin Pin Pin Pin Piston Pin Retainer	FP-23521802 FP-23516681 FP-23525168 FP-23521649		Ductile iron for standard cross head piston Hollow pin w/0.866" (22MM) I.D.; Articulated piston; Heavy pin Hollow pin w/1.020" (26MM) I.D.; Articulated piston
6 6 6 6 12 12	Piston Skirt Piston Skirt Pin Pin Pin Pin Piston Pin Retainer Piston Pin Bolt	FP-23521802 FP-23516681 FP-23525168 FP-23521649 FP-8929087 FP-23521781 FP-8929337		Ductile iron for standard cross head piston Hollow pin w/0.866" (22MM) I.D.; Articulated piston; Heavy pin Hollow pin w/1.020" (26MM) I.D.; Articulated piston Use w/Cross Head pistons
6 6 6 6 12	Piston Skirt Piston Skirt Pin Pin Pin Pin Pin Piston Pin Retainer	FP-23521802 FP-23516681 FP-23525168 FP-23521649 FP-8929087 FP-23521781		Ductile iron for standard cross head piston Hollow pin w/0.866" (22MM) I.D.; Articulated piston; Heavy pin Hollow pin w/1.020" (26MM) I.D.; Articulated piston Use w/Cross Head pistons



(cor	Multi-Purpose Engines Serioti.) 12.7L 774 SOHC Turbo-Diesel L6	<b>es 60 Eng. (12</b> . (24 Valve), 130mr	. <b>7L)</b> n Bore	
	CYLINDER COMPONENTS (cont.	)		
	PISTONS (cont.)	PART NO.	SIZE	
6	Bolt   Pin Bushing	FP-23506222 FP-4774Y		Use w/Articulated pistons; M8 - 1.25" x 20, 12 point
	CONNECTING RODS &	11-4//41		
QTY	BRGS.	PART NO.	SIZE	DESCRIPTION
12	Con. Rod Bolt	FP-8929355		M14 x 1.5" x 108
12	Con. Rod Nut Rod Pair	FP-8929019 FP-23526142	STD	M14 x 1.5 Engs. w/Articulated pistons; Drilled uppper & lower
6	Rod Pair	FP-23527065 *		Engs. w/Articulated pistons; Drilled uppper & lower
6	Rod Pair	FP-23527066 *	.508MM	Engs. w/Articulated pistons; Drilled uppper & lower
6	Rod Pair	FP-23527067 *	.762MM	Engs. w/Articulated pistons; Drilled uppper & lower
6	Rod Pair Rod Pair	FP-4770P 4770P + Std25MM		O.A.L. 1.710" or 43.430MM O.A.L. 1.710" or 43.430MM; When depleted use FP-4770P
6	Rod Pair	FP-8929710	STD	O.A.L. 1.7100 or 43.430MM
6	Rod Pair	FP-8929711		O.A.L. 1.7100" or 43.430MM
6	Rod Pair	FP-8929712		O.A.L. 1.7100" or 43.430MM
6	Rod Pair Rod Pair	FP-8929713		O.A.L. 1.7100" or 43.430MM O.A.L. 1.8670" or 47.430MM
6	Rod Pair	FP-23515581 FP-23515582		O.A.L. 1.8670" or 47.430MM
6	Rod Pair	FP-23515583		O.A.L. 1.8670" or 47.430MM
6	Rod Pair	FP-23515584	.762MM	O.A.L. 1.8670" or 47.430MM
QTY	PISTON RINGS	PART NO.	SIZE	
6	Ring Set Single Cylinder	FP-23503747		2.50MM top ring; Cross Head & Articulated pistons
6	Ring Set Single Cylinder Compression Ring	FP-23505729		3.50MM top ring; Cross Head pistons only
6	Compression Ring	FP-8929845 FP-8929844		Intermediate Top; 2.50MM
6	Compression Ring	FP-23504941		Top; 3.50MM
6	Oil Ring	FP-23515500		
6	Oil Ring Expander	FP-23529379		
	CLUTCH			
QTY 1	CLUTCH Ball Brg.	PART NO. FP-23503707	SIZE	DESCRIPTION Clutch Pilot
'	KITS	11-20300707		Old Cit Till Cit
	RE-RING KIT			QTY PREMIUM QTY ECONOMY
YE	ARS DESCRIPTION			KIT NO. KIT NO.
	In-Frame Kit Overhaul Kit		e-ring w/ e-ring w/	
OTV	OVERHAUL KIT			
1	In-Frame Overhaul Kit	PART NO. FP-IFKS60SPREM	SIZE	DESCRIPTION Articulated pistons
i	In-Frame Overhaul Kit	FP-S60		Cross Head pistons
1	In-Frame Overhaul Kit	FP-S60TLC		Cross Head pistons
1	Complete Overhaul Kit	FP-OHS60SPREM		Articulated pistons
1	Complete Overhaul Kit Complete Overhaul Kit	FP-S60OH FP-S60TLCOH		Cross Head pistons Cross Head pistons
	'		OI )	Gross Fleau pistoris
9	Multi-Purpose Engines Serional 14.0L 858 SOHC Turbo-Diesel L6			
	CYL. HEAD & PARTS	·		
QTY	GASKETS	PART NO.	SIZE	DESCRIPTION
1	Valve Cover Gasket	FP-23511991		Lower to upper rocker cover gskt.; 106.68" circumference;
4	Valve Cover Gasket	ED-22522260		Diamond shaped 0.186" thick; For 2 piece cover
1 1	Head Gasket	FP-23522269 FP-23530421		New design rocker cover; Black polyacrylate Blue Seal® Gasket Design
1	Head Gasket	FP-23538406		ML7 <sup>™</sup> head gasket design
1	Head Set	FP-23532333		Incl. Blue Seal® Gasket Design head gasket
1	Head Set	FP-23536442		Incl. ML7 <sup>™</sup> head gasket
	HEAD BOLTS	PART NO.	SIZE	DESCRIPTION
38	Head Bolt	FP-23530768		Head holt washers
38	Washer	FP-8929328	<u></u>	Head bolt washers
	MISCELLANEOUS	PART NO.	SIZE	DESCRIPTION Cylinder head: 3/4"
8	Pipe Plug Bolt	FP-8923313 FP-11504822		Cylinder head; 3/4" Rocker cover mntg.; M8 x 1.25 x 30MM
	FREEZE PLUGS	PART NO.	SIZE	DESCRIPTION
2	Pipe Plug	FP-8923313	SIZE	Cylinder head; 3/4"
			ed on nex	





Multi-Purpose Engines Series 60 Eng. (14.0L) 9 14.0L 858 SOHC Turbo-Diesel L6 (24 Valve), 133mm Bore (cont.)

			14.UL 85	58 SOHC Turbo-Diesel L6 (24 Valve), 133mm Bore (cont.)
	CYL. HEAD & PARTS (cont.)			
QTY	VALVE	PART NO.	SIZE	DESCRIPTION
12 12	Intake Exhaust	FP-23529629 FP-23524521		Included in FP-23501576 kit; 30 Deg. seat Included in FP-23507504 kit; EMS-247 Material; Chrome plated
12	Exhaust	FP-23529596		stem Use w/Monotherm or Monosteel piston applications; 30 Deg. seat; Pyromet 31, Chrome plated stem; 1.5530" Head Dia., .3430" Stem Dia., 8.4710" O.A.L.
12	Exhaust Valve Kit	FP-23507504		Identification H; Incl. FP-23524521 valve, valve seal, keeper & rotocap
12 48	Intake Valve Kit Keeper	FP-23501576 FP-8929573		Incl. FP-23529629 valve, valve seal, keeper & rotocap Exh. & Int.
QTY	VALVE SEAT	PART NO.	SIZE	DESCRIPTION
12	Exh.	FP-8929126		Std. Depth; 6.261MM - 6.363MM thick; 1.6285" OD, 1.3591" ID,2485" Depth
12	Exh.	FP-8929630		U/S Depth; 5.499MM - 5.601MM thick; 1.6285" OD, 1.3591" ID, .2185" Depth
12	Exh.	FP-8929629		U/S Depth; 5.753MM - 5.855MM thick; 1.6285" OD, 1.3591" ID, .2285" Depth
12	Exh. Int.	FP-8929628 FP-8929127		U/S Depth; 6.007MM - 6.109MM thick; 1.6285" OD, 1.3591" ID, .2385" Depth Std. Depth; 7.155MM - 7.251MM thick; 1.8195" OD, 1.5710" ID,
12	III.	FF-0929121		.2837" Depth
12	Int.	FP-8929627		U/S Depth; 6.393MM - 6.495MM thick; 1.8195" OD, 1.5710" ID, .2537" Depth
12	Int.	FP-8929626		U/S Depth; 6.647MM - 6.749MM thick; 1.8195" OD, 1.5710" ID, .2637" Depth
12	Int.	FP-8929625		U/S Depth; 6.901MM - 7.003MM thick; 1.8195" OD, 1.5710" ID, .2737" Depth
	VALVE GUIDE	PART NO.	SIZE	
24 24	Guide Guide	FP-23518571 FP-23518572		Exh.; 14.30MM - 14.32MM Dia. Exh.; 14.43MM - 14.45MM Dia.
24	Guide	FP-23533552		Exh. & Int.; Powdered Metal replacement
$\vdash$	VALVE SPRING	PART NO.	SIZE	DESCRIPTION
24	Spring	FP-8929415		Exh. & Int.; Yellow stripe
24	Valve Spring Seat	FP-8929076		Exh. & Int.; .087"094" (2.20MM - 2.40MM) Thick
	VALVE MISC.	PART NO.	SIZE	DESCRIPTION
24 12	Rotocap Adj. Screw	FP-8929105 FP-23520818		Exh. & Int. Int. valve adjusting
$\vdash$	VALVE SEAL		CIZE	DESCRIPTION
24	Valve Stem Seal	<i>PART NO.</i> FP-23523930	SIZE	Exh. & Int.
QTY	ROCKER PARTS	PART NO.	SIZE	DESCRIPTION
2	Expansion Plug	FP-9421745		Rocker Arm Shaft Plug; 1/2" Dia.
30	Nut	FP-23514371 FP-23521111		Arm adj. screw; 3/8" - 24 UNF Rocker Arm stud seal
2	O-Ring Oil Seal	FP-8929740		Rocker Arm stad seal; .134" x .074" x .480"
	CAMSHAFT GROUP			
OTV	CAMSHAFT/LIFTER	PART NO.	CIZE	DESCRIPTION
3	Bolt	FP-11504822	SIZE	Balance shaft thrust plate; M8 x 1.25 x 30MM
1	O-Ring	FP-23528491		Thrust plate; Gear housing; w/3-Bolt plate
1	Oil Seal	FP-8929740		Cap bearing seal; .134" x .074" x .480"
2	Oil Seal	FP-23522975		Front cap seal
1	Oil Seal  ACCESSORY DRIVE	FP-23521894		Thrust plate; Cylinder head
QTY	ACCESSORY DRIVE	PART NO.	SIZE	DESCRIPTION
1	Gasket Gasket	FP-8929130 FP-8929299		Upper right rear & cam access cover Acc. drive front
	FUEL SYSTEM & PARTS			
<b>QTY</b> 6	FUEL INJECTION Bolt	PART NO. FP-8929393	SIZE	DESCRIPTION Injector clamp
	ENGINE BLOCK & PARTS			
	GASKETS	PART NO.	SIZE	DESCRIPTION
1	Oil Pan Gasket	FP-8929102		Standard oil pan; Gray silicone
10	Oil Pan Gasket Oil Pan Isolator Bushing	FP-23522279 FP-23517242		Use for oil pan w/o cord modified seal system
10	Bolt	FP-23517242 FP-11504571		Oil pan
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9 Multi-Purpose Engines Series 60 Eng. (14.0L) (cont.) 14.0L 858 SOHC Turbo-Diesel L6 (24 Valve), 133mm Bore

Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/machined notches in main bear plain Main Brg. FP-23533252 STD Position Lower; Engs. w/machined notches in main bear caps Plain Main Brg. FP-23533263 STD Position Lower; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533263 STD Position Lower; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533262 25MM Position Lower; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533250 50MM Position Lower; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533251 50MM Position Lower; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533251 50MM Position Lower; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/machined notches in main bear caps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/machined notches in main bear caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main bear caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533259 Position Upper; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533254 S0MM Position Upper; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533254 S0MM Position Upper; Engs. w/o machined notches in main bear caps Plain Main Brg. FP-23533257 S0MM Position Upper; Engs. w/o machined notches in main bear caps						
TOOPPET Washer  TOOPPET WASHER				)	<b>ENGINE BLOCK &amp; PARTS (cont.</b>	
TOOPPET Washer  TOOPPET WASHER		DESCRIPTION	SIZE	PART NO.	GASKETS (cont.)	QTY
1 Complete Overhaud Gasket Set  TP-23532332 Incl. Blue Sealt® Gasket Design head gasket  TP-3253263 STD  TO Cam Brg. FP-3258980 STD  TO CRANKSHAFT  TO Cam Brg. FP-3252725 Incl. BESCRIPTION  TO Cam Brg. FP-32525990 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32525990 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-3252725 Incl. Bescription  TO Cam Brg. FP-3252725 Incl. Bescription  TO Cam Brg. FP-3253595 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  TO Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  To Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  To Cam Brg. FP-32515978 Incl. Blue Sealt St DescRIPTION  To Cam Brg. FP-32515978 Incl. Blue St DescRIPTION  To Cam Brg. FP-32515978 I						
1 Complete Overhaul Gasket Set  TP-2333232 Incl. Blue Seal® Gasket Design head gasket  TP-323930 STD  7 Cam Brg. FP-323990 STD  7 Cam Brg. FP-323991 Z-54MM  7 Cam Brg. FP-323991 Z-54MM  7 Cam Brg. FP-323991 Z-54MM  7 Cam Brg. FP-323992 Z-54MM  7 Cam Brg. FP-323993 Z-54MM  7 Cam Brg. FP-323993 Z-54MM  7 Cam Brg. FP-323993 Z-54MM  PR-322993 Z-54MM  PR-322993 Z-54MM  TP-32352990 SIZE DESCRIPTION  TO RANKSHAFT  1 Vibration Damper FP-23352255 I2 H2 SCRIPTION  TO GRANKSHAFT  1 Vibration Damper FP-23352255 I2 H2 SCRIPTION  TO GRANKSHAFT  1 Vibration Damper FP-23352599 SIZE DESCRIPTION  TO GRANKSHAFT  1 Vibration Damper FP-23352599 SIZE DESCRIPTION  TO GRANKSHAFT  1 Vibration Damper FP-23531578  TO DESCRIPTION  SIZE DESCRIPTION  SIZE DESCRIPTION  TO DESCRIPTION  TO Duble lip wrap around PTFE lip; Also available as National No. 5424  TO GRANKSHAFT  1 Vibration Damper FP-23531578  TO DESCRIPTION  SIZE DESCRIPTION  SIZE DESCRIPTION  TO DESCRIPTION  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DESCRIPTION  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DESCRIPTION  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DUBLE lip wrap around PTFE lip; Also available as National No. 5424  TO DUBLE lip wrap around PTFE lip; Als		DESCRIPTION	SIZE	PART NO	GASKET SETS	OTY
CAM BEARINGS			OLLL	-		
To Cam Brg.   FP-8929891   254MM   FP-8929891   254MM   FP-8929892   7 Cam Brg.   FP-8929892   7 Cam Brg.   FP-8929893   7 Cam Brg.   FP-892983289   7 Cam Brg.   FP-892893289   7 Cam Brg.   FP-892893289   7 Cam Brg.   FP-893		3 3	CIZE		'	
7 Cam Brg.         FP-8929691         254MM           7 Cam Brg.         FP-8929692         508MM           7 Cam Brg.         FP-8929693         762MM           CRANKSHAFT         PART NO.         SIZE         DESCRIPTION           1 Crankshaft         FP-23527225         13.5° Día. One-piece           QTY         SEALS - FRONT CRANK         PART NO.         SIZE         DESCRIPTION           1 Oil Seal Kit         FP-23518759         SIZE         DESCRIPTION           1 Oil Seal Kit         FP-23518750         SIZE         DESCRIPTION           1 Oil Seal Kit         FP-23518969         PTFE IIp; Also available as National No. 5424           OTY         BAILS - FRANCH         PART NO.         SIZE         DESCRIPTION           1 Mian Set         FP-23518750         SIZE         DESCRIPTION           1 Main Set         FP-7368MS69MM         SIZE         DESCRIPTION           2 Plain M		DESCRIPTION				
7 Cam Brg. FP-8929693 .568MM FP-8929693 .762MM  CRANKSHAFT						
TOTAMINESHAFT/OIL PUMP  CRANKSHAFT  TOTY CRANKSHAFT  TOTAMINESHAFT  TOTAMINESHAFT						
CRANKSHAFT/OIL PUMP  OTY CRANKSHAFT 1 Crankshaft 1 Crankshaft 1 Crankshaft 1 Vibration Damper FP-23527225 1 Vibration Damper FP-23527225 1 Vibration Damper FP-23527225 TOTY SEALS - FRONT CRANK I OII Seal Kit FP-23518355  CTY SEALS - REAR CRANK I OII Seal Kit FP-23518355 FP-23513578 FP-23513578 J OII Seal Kit FP-2351999 FP-73631M54MM J OII Seal Kit FP-73631M54MM J Main Set FP-7363M54MM J Main Set FP-8329670A J Plain Main Brg FP-8329671A J Plain Main Brg FP-23533255 J Min Position Lower; Engs. w/machined notches in main bec caps Applied Main Brg FP-23533255 J Min Position Lower; Engs. w/machined notches in main bec caps Applied Main Brg FP-23533255 J Min Position Lower; Engs. w/machined notches in main bec caps Applied Main Brg FP-23533255 J Min Position Lower; Engs. w/machined notches in main bec caps Applied Main Brg P P-23533255 J Min Position Lower; Engs. w/machined notches in main bec caps Applied Main Brg P P-23533255 J Min Position Lower; Engs. w/machined notches in main bec caps Applied Main Brg P P-23533255 J Min Position Lower; Engs. w/machined notches in main bec caps Applied Main Brg P P-23533255 J Min Position Lower; Engs. w/machined notches in main bec						
CTY   CRANKSHAFT			.7 OZIVIIVI	11 0020000		
1   Crankshaft						
1 Vibration Damper			SIZE			QTY
TOIL SEALS - REAR CRANK OIT SEALS - REAR CRANK OIT OIL Seal Kit OIL Seal Kit FP-23516969 TP-23516969 TP-23516969 TP-23516969 TP-23516969 TP-23516969 TP-23516969 TP-23516969 TP-23516969 TP-25516969 TP-25531568 TP-23531578 T		13.5" Dia., One-piece		FP-23525990	Vibration Damper	1
SEALS - REAR CRANK   PART NO.   Oil Seal Kit   FP-23513578   Discal Kit   FP-23513978   Double lip wrap around   Double		DESCRIPTION	SIZE	PART NO.	SEALS - FRONT CRANK	QTY
1 Oil Seal Kit FP-23513678 Double lip wrap around PTFE lip; Also available as National No. 5424  OTV MAIN BEARINGS  PART NO.  I Main Set FP-7363M STD Main Set FP-7363M STD Main Set FP-7363MS08MM .598MM .598MM .762MM .76				FP-23518355	Oil Seal Kit	1
1     Oil Seal Kit     FP-23516969     PTFE lip; Also available as National No. 5424       OTY MAIN BEARINGS     PART NO. 1 Main Set     FP-7363M     SIZE FP-7363M     DESCRIPTION       1     Main Set     FP-7363M5254MM     254MM       1     Main Set     FP-7363M508MM     254MM       6     Plain Main Brg.     FP-8929670A     STD       6     Plain Main Brg.     FP-8929677A     254MM       6     Plain Main Brg.     FP-8929677A     308MM       6     Plain Main Brg.     FP-8929677A     308MM       7     Plain Main Brg.     FP-89296322     STD       7     Plain Main Brg.     FP-23533251     25MM     Position Lower; Engs. w/machined notches in main ber       7     Plain Main Brg.     FP-23533252     STD     Position Lower; Engs. w/machined notches in main ber       8     Plain Main Brg.     FP-23533252     STD     Position Lower; Engs. w/o machined notches in main ber       9     Plain Main Brg.     FP-23533253     STD     Position Lower; Engs. w/o machined notches in main ber       1     Plain Main Brg.     FP-23533251     25MM     Position Lower; Engs. w/o machined notches in main ber       1     Plain Main Brg.     FP-23533252     25MM     Position Lower; Engs. w/o machined notches in main ber       1		DESCRIPTION	SIZE	PART NO.	SEALS - REAR CRANK	QTY
1 Oil Seal Kit     FP-23516969     PTFE lip; Also available as National No. 5424       QTY MAIN BEARINGS     PART NO. 1 Main Set     FP-7363M     SIZE FP-7363M     DESCRIPTION       1 Main Set     FP-7363MS08MM     .254MM       1 Main Set     FP-7363MS08MM     .508MM       2 Plain Main Brg.     FP-8929670A     STD       6 Plain Main Brg.     FP-8929677A     .508MM       6 Plain Main Brg.     FP-8929677A     .508MM       6 Plain Main Brg.     FP-8929677A     .762MM       7 Plain Main Brg.     FP-8929677A     .762MM       7 Plain Main Brg.     FP-82353252     STD     Position Lower; Engs. w/machined notches in main ber       7 Plain Main Brg.     FP-23533251     25MM     Position Lower; Engs. w/machined notches in main ber       8 Plain Main Brg.     FP-23533252     STD     Position Lower; Engs. w/o machined notches in main ber       9 Plain Main Brg.     FP-23533253     STD     Position Lower; Engs. w/o machined notches in main ber       1 Plain Main Brg.     FP-23533253     STD     Position Lower; Engs. w/o machined notches in main ber       1 Plain Main Brg.     FP-23533251     25MM     Position Lower; Engs. w/o machined notches in main ber       1 Plain Main Brg.     FP-23533250     50MM     Position Lower; Engs. w/o machined notches in main ber       1 Plain Main Brg.     FP-				FP-23513578	Oil Seal Kit	1
1 Main Set       FP-7363M254MM       STD         1 Main Set       FP-7363M254MM       .254MM         1 Main Set       FP-7363M508MM       .508MM         1 Main Set       FP-7363M508MM       .508MM         6 Plain Main Brg.       FP-8929670A       STD         6 Plain Main Brg.       FP-8929671A       .254MM         6 Plain Main Brg.       FP-8929671A       .508MM         7 Plain Main Brg.       FP-8929672A       .508MM         8 Plain Main Brg.       FP-8929673A       .762MM         9 Plain Main Brg.       FP-23533251       25MM       Position Lower; Engs. w/machined notches in main ber.         7 Plain Main Brg.       FP-23533250       50MM       Position Lower; Engs. w/machined notches in main ber.         8 Plain Main Brg.       FP-23533252       STD       Position Lower; Engs. w/machined notches in main ber.         9 Plain Main Brg.       FP-23533253       STD       Position Lower; Engs. w/o machined notches in main ber.         1 Plain Main Brg.       FP-23533251       25MM       Position Lower; Engs. w/o machined notches in main ber.         1 Plain Main Brg.       FP-23533252       25MM       Position Lower; Engs. w/o machined notches in main ber.         1 Plain Main Brg.       FP-23533255       50MM       Position Upper; Engs. w/o machined notch		PTFE lip; Also available as National No. 5424		FP-23516969	Oil Seal Kit	1
1 Main Set       FP-7363M254MM       STD         1 Main Set       FP-7363M254MM       .254MM         1 Main Set       FP-7363M508MM       .508MM         1 Main Set       FP-7363M508MM       .508MM         6 Plain Main Brg.       FP-8929670A       STD         6 Plain Main Brg.       FP-8929671A       .254MM         6 Plain Main Brg.       FP-8929671A       .508MM         7 Plain Main Brg.       FP-8929672A       .508MM         8 Plain Main Brg.       FP-8929673A       .762MM         9 Plain Main Brg.       FP-23533251       25MM       Position Lower; Engs. w/machined notches in main ber.         7 Plain Main Brg.       FP-23533250       50MM       Position Lower; Engs. w/machined notches in main ber.         8 Plain Main Brg.       FP-23533252       STD       Position Lower; Engs. w/machined notches in main ber.         9 Plain Main Brg.       FP-23533253       STD       Position Lower; Engs. w/o machined notches in main ber.         1 Plain Main Brg.       FP-23533251       25MM       Position Lower; Engs. w/o machined notches in main ber.         1 Plain Main Brg.       FP-23533252       25MM       Position Lower; Engs. w/o machined notches in main ber.         1 Plain Main Brg.       FP-23533255       50MM       Position Upper; Engs. w/o machined notch	-	DESCRIPTION	SIZE	PART NO.	MAIN BEARINGS	QTY
Main Set   FP-7363M508MM   S08MM   FP-7363M508MM   S08MM   S08MM   FP-7363M508MM   S08MM   S08MM   S08MM   FP-8929670A   STD   FP-8929671A   S08MM   FP-8929673A   S08MM   FP-8923633252   STD   Position Lower; Engs. w/machined notches in main bereface   FP-23533252   STD   FP-23533252   STD   FP-23533253   S08MM   FP-23533253   S08MM   FP-23533252   STD   FP-23533253   S08MM   FP-23533254   S08MM   FP-23533254   S08MM   FP-23533255   S08MM   FP-23533256   S08MM   FP-23533256   S08MM   FP-23533256   S08MM   FP-23533256   S08MM   FP-23533256   S08MM   FP-23533256   S08MM   FP-23533257   S08MM   FP-23533257   S08MM   FP-23533257   S08MM   FP-23533257   S08MM   FP-23533259   STD						
1       Main Set       FP-7363M762MM       .608MM         6       Plain Main Brg.       FP-8929670A       STD         6       Plain Main Brg.       FP-8929671A       .254MM         6       Plain Main Brg.       FP-8929672A       .508MM         6       Plain Main Brg.       FP-8929673A       .762MM         6       Plain Main Brg.       FP-23533252       STD       Position Lower; Engs. w/machined notches in main bernet properties.         7       Plain Main Brg.       FP-23533251       25MM       Position Lower; Engs. w/machined notches in main bernet properties.         8       Plain Main Brg.       FP-23533252       STD       Position Lower; Engs. w/machined notches in main bernet properties.         9       Plain Main Brg.       FP-23533253       STD       Position Lower; Engs. w/o machined notches in main bernet properties.         1       Plain Main Brg.       FP-23533263       STD       Position Lower; Engs. w/o machined notches in main bernet properties.         1       Plain Main Brg.       FP-23533251       25MM       Position Lower; Engs. w/o machined notches in main bernet properties.         1       Plain Main Brg.       FP-23533250       50MM       Position Lower; Engs. w/o machined notches in main bernet properties.         1       Plain Main Brg.       FP-23533250<						
Main Set   FP-7363M762MM   FP-8929670A   STD						
Plain Main Brg.   P-8929670A   STD					Main Set	
6 Plain Main Brg. FP-8929671A						
6 Plain Main Brg. FP-8929673A 762MM Plain Main Brg. FP-23533252 STD Position Lower; Engs. w/machined notches in main ber Plain Main Brg. FP-23533251 SMM Position Lower; Engs. w/machined notches in main ber Plain Main Brg. FP-23533252 STD Position Lower; Engs. w/machined notches in main ber Position Lower; Engs. w/machined notches in main ber Position Lower; Engs. w/o machined notches in main ber Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main ber Caps Plain Main Brg. FP-23533259 Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w			.254MM	FP-8929671A		6
6 Plain Main Brg. FP-8929673A 762MM Plain Main Brg. FP-23533252 STD Position Lower; Engs. w/machined notches in main ber Plain Main Brg. FP-23533251 SMM Position Lower; Engs. w/machined notches in main ber Plain Main Brg. FP-23533252 STD Position Lower; Engs. w/machined notches in main ber Position Lower; Engs. w/machined notches in main ber Position Lower; Engs. w/o machined notches in main ber Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Lower; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main ber Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main ber Caps Plain Main Brg. FP-23533259 Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w/o machined notches in main ber Caps Position Upper; Engs. w			.508MM	FP-8929672A	Plain Main Brg.	6
Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/machined notches in main bear FP-23533250 50MM Position Lower; Engs. w/machined notches in main bear FP-23533250 50MM Position Lower; Engs. w/machined notches in main bear FP-23533251 STD Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/o machined notches in main bear Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533250 50MM Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533250 50MM Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533251 50MM Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/machined notches in main bear Caps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machine			.762MM	FP-8929673A	Plain Main Brg.	6
Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/machined notches in main bear FP-23533250 50MM Position Lower; Engs. w/machined notches in main bear FP-23533250 50MM Position Lower; Engs. w/machined notches in main bear FP-23533251 STD Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/o machined notches in main bear Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533250 50MM Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533250 50MM Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533251 50MM Position Lower; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/machined notches in main bear Caps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machined notches in main bear Caps Plain Main Brg. FP-23533257 SOMM Position Upper; Engs. w/o machine	bearing caps	Position Lower; Engs. w/machined notches in main beari	STD	FP-23533252	Plain Main Brg.	7
Plain Main Brg. P-23533257 Position Upper; Engs. w/machined notches in main ber caps Plain Main Brg. P-23533259 Position Upper; Engs. w/machined notches in main ber caps Plain Main Brg. P-23533259 Position Upper; Engs. w/machined notches in main ber caps Plain Main Brg. P-23533259 Position Upper; Engs. w/o machined notches in main ber caps Plain Main Brg. P-23533259 Position Upper; Engs. w/o machined notches in main ber caps Plain Main Brg. P-23533258 Position Upper; Engs. w/o machined notches in main ber caps Plain Main Brg. P-23533258 Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps Position Upper; Engs. w/o machined notches in main ber caps	bearing caps	Position Lower; Engs. w/machined notches in main beari	25MM	FP-23533251	Plain Main Brg.	7
Plain Main Brg. FP-23533263 STD Position Lower; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533261 25MM Position Lower; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533262 25MM Position Lower; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533250 50MM Position Lower; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533251 50MM Position Lower; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main be caps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/machined notches in main be caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main be caps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533255 25MM Position Upper; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main be caps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps Position Upper; Engs. w/o machined notches in main be caps	pearing caps	Position Lower; Engs. w/machined notches in main beari	50MM	FP-23533250	Plain Main Brg.	7
Plain Main Brg. FP-23533251 Plain Main Brg. FP-23533251 Plain Main Brg. FP-23533251 Plain Main Brg. FP-23533252 FP-23533250 FP	n bearing	Position Lower; Engs. w/o machined notches in main bea	STD	FP-23533252	Plain Main Brg.	6
caps Plain Main Brg. FP-23533251 25MM Position Lower; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533250 50MM Position Lower; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533251 50MM Position Lower; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main becaps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/machined notches in main becaps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/machined notches in main becaps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main becaps Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main becaps						
Plain Main Brg.  FP-23533251  Position Lower; Engs. w/o machined notches in main be caps  Plain Main Brg.  FP-23533262  Position Lower; Engs. w/o machined notches in main be caps  Plain Main Brg.  FP-23533250  FP-23533251  Position Lower; Engs. w/o machined notches in main be caps  Position Lower; Engs. w/o machined notches in main be caps  Position Lower; Engs. w/o machined notches in main be caps  Position Lower; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/machined notches in main be caps  Plain Main Brg.  FP-23533258  FP-23533257  Position Upper; Engs. w/machined notches in main be caps  Plain Main Brg.  FP-23533259  FP-23533259  Position Upper; Engs. w/o machined notches in main be caps  Plain Main Brg.  FP-23533259  FP-23533259  Position Upper; Engs. w/o machined notches in main be caps  Plain Main Brg.  FP-23533258  Position Upper; Engs. w/o machined notches in main be caps  Plain Main Brg.  FP-23533258  Position Upper; Engs. w/o machined notches in main be caps  Plain Main Brg.  FP-23533258  Position Upper; Engs. w/o machined notches in main be caps  Plain Main Brg.  FP-23533258  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps	n bearing		STD	FP-23533263	Plain Main Brg.	1
Plain Main Brg.  FP-23533262  FP-23533262  FP-23533262  FP-23533250  FP-23533250  Position Lower; Engs. w/o machined notches in main be caps  FP-23533251  FP-23533251  FP-23533252  FP-23533253  FP-23533253  FP-23533254  FP-23533254  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533258  FP-23533257  FP-235	o booring		251414	ED 2252251	Plain Main Pra	6
Plain Main Brg.  FP-23533262  Position Lower; Engs. w/o machined notches in main be caps  Position Lower; Engs. w/o machined notches in main be caps  Position Lower; Engs. w/o machined notches in main be caps  Position Lower; Engs. w/o machined notches in main be caps  Position Lower; Engs. w/o machined notches in main be caps  FP-23533259  FP-23533259  FP-23533259  FP-23533258  Position Upper; Engs. w/machined notches in main be caps  Plain Main Brg.  FP-23533257  FP-23533259  FP-23533259  Position Upper; Engs. w/o machined notches in main be caps  FP-23533259  FP-23533259  FP-23533259  Position Upper; Engs. w/o machined notches in main be caps  Plain Main Brg.  FP-23533258  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps	Dearing	. •	ZOIVIIVI	FF-23333231	Flaiii Maiii Big.	O
caps Plain Main Brg. FP-23533250 FP-23533251 FP-23533251 FP-23533252 FP-23533253 FP-23533259 FP-23533259 FP-23533258 FP-23533257 FP-23533257 FP-23533257 FP-23533259 FP-23533259 FP-23533259 FP-23533259 FP-23533259 FP-23533257 FP-23533259 FP-23533250 FP-235332	n hearing		251/11/1	FD-23533262	Plain Main Bro	1
FP-23533250  Plain Main Brg.  FP-23533251  Plain Main Brg.  FP-23533251  Plain Main Brg.  FP-23533259  Plain Main Brg.  FP-23533258  Plain Main Brg.  FP-23533258  Plain Main Brg.  FP-23533257  Plain Main Brg.  FP-23533258  FP-23533259  FP-23533259  FP-23533259  FP-23533259  Position Lower; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/machined notches in main be caps  FP-23533259  FP-23533259  FP-23533259  FP-23533259  FP-23533259  FP-23533259  FP-23533258  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps  Position Upper; Engs. w/o machined notches in main be caps	Dearing	. •	ZOWIW	11-20300202	i i aiii waiii big.	
raps Plain Main Brg. FP-23533261 FP-23533259 FP-23533259 FP-23533258 FP-23533258 FP-23533257 FPain Main Brg. FP-23533257 FPain Main Brg. FP-23533257 FPain Main Brg. FP-23533257 FP-23533257 FPain Main Brg. FP-23533259 FP-23533255 FP-23533258 FP-23533258 FP-23533258 FP-23533258 FP-23533254 FP-23533257 FP-2353257 FP-2353257 FP-2353257 FP-23533257 FP-2353257 FP-2353257 FP-2353257 FP-2353257 FP-2353257 FP-2353257 FP	n bearing		50MM	FP-23533250	Plain Main Brg.	6
7 Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main bear Plain Main Brg. FP-23533257 FOMM Position Upper; Engs. w/machined notches in main bear Plain Main Brg. FP-23532926 STD Position Upper; Engs. w/machined notches in main bear Position Upper; Engs. w/o machined notches in main bear Position Upper; Engs. w/o machined notches in main bear Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear Position Upper; E		. •			- 1 aa 2.g.	•
7 Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/machined notches in main bear Plain Main Brg. FP-23533257 S0MM Position Upper; Engs. w/machined notches in main bear Plain Main Brg. FP-23533257 STD Position Upper; Engs. w/machined notches in main bear Pos	n bearing	Position Lower; Engs. w/o machined notches in main bea	50MM	FP-23533261	Plain Main Brg.	1
7 Plain Main Brg. FP-23533258	Ü	caps			_	
7 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/machined notches in main bear caps 7 Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear caps 8 Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533255 25MM Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main bear caps 1 Plain Main Brg. FP-23533254 50MM Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main bear caps 9 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main bear caps				FP-23533259	Plain Main Brg.	
Plain Main Brg.  FP-235332926  FP-23533259  Position Upper; Engs. w/o machined notches in main becaps  Plain Main Brg.  FP-23533259  Plain Main Brg.  FP-23533255  Plain Main Brg.  FP-23533255  Plain Main Brg.  FP-23533254  FP-23533254  Plain Main Brg.  FP-23533257  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps  Position Upper; Engs. w/o machined notches in main becaps	pearing caps	Position Upper; Engs. w/machined notches in main beari	25MM	FP-23533258		
1Plain Main Brg.FP-23532926STDPosition Upper; Engs. w/o machined notches in main becaps7Plain Main Brg.FP-23533259STDPosition Upper; Engs. w/o machined notches in main becaps1Plain Main Brg.FP-2353325525MMPosition Upper; Engs. w/o machined notches in main becaps7Plain Main Brg.FP-2353325825MMPosition Upper; Engs. w/o machined notches in main becaps1Plain Main Brg.FP-2353325450MMPosition Upper; Engs. w/o machined notches in main becaps7Plain Main Brg.FP-2353325750MMPosition Upper; Engs. w/o machined notches in main becaps	bearing caps					
7 Plain Main Brg. FP-23533259 STD Position Upper; Engs. w/o machined notches in main broaps 1 Plain Main Brg. FP-23533255 25MM Position Upper; Engs. w/o machined notches in main broaps 7 Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main broaps 1 Plain Main Brg. FP-23533254 50MM Position Upper; Engs. w/o machined notches in main broaps 7 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main broaps	n bearing	Position Upper; Engs. w/o machined notches in main bea	STD	FP-23532926	Plain Main Brg.	1
caps Plain Main Brg.  FP-23533255  Plain Main Brg.  FP-23533258  Position Upper; Engs. w/o machined notches in main b caps Position Upper; Engs. w/o machined notches in main b caps Plain Main Brg.  FP-23533254  FP-23533254  FP-23533257  Plain Main Brg.  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257  FP-23533257				ED 00=====	B M . B	_
Plain Main Brg.  FP-23533255  Plain Main Brg.  FP-23533255  Plain Main Brg.  FP-23533258  Position Upper; Engs. w/o machined notches in main becaps  Plain Main Brg.  FP-23533254  Position Upper; Engs. w/o machined notches in main becaps  FP-23533254  FP-23533257  Plain Main Brg.  FP-23533257  Position Upper; Engs. w/o machined notches in main becaps  FP-23533257  FP-23533257  Position Upper; Engs. w/o machined notches in main becaps  FP-23533257  FP-23533257  FP-23533257	n bearing		STD	FP-23533259	Plain Main Brg.	7
7 Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main b caps 1 Plain Main Brg. FP-23533254 50MM Position Upper; Engs. w/o machined notches in main b caps 7 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main b	a baari		051414	ED 00E000EE	Diain Main Dra	4
7 Plain Main Brg. FP-23533258 25MM Position Upper; Engs. w/o machined notches in main b caps 1 Plain Main Brg. FP-23533254 50MM Position Upper; Engs. w/o machined notches in main b caps 7 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main b	ı pearing	11 / 0	25MM	rr-23533255	Plain Main Brg.	1
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1 Plain Main Brg. FP-23533254 50MM Position Upper; Engs. w/o machined notches in main b caps 7 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main b	ı bearing		≥5IVIIVI	FP-23533258	Piain Main Brg.	/
caps 7 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main b	n hearing		501/11/	FD-23533354	Plain Main Bro	1
7 Plain Main Brg. FP-23533257 50MM Position Upper; Engs. w/o machined notches in main b	Dealing	11	JUIVIIVI	11-20000204	i iaii iviaiii big.	'
	n bearing		50MM	FP-23533257	Plain Main Bra.	7
ι Ι		caps				•
1 Flanged Main Brg. FP-8929680 STD		•	STD	FP-8929680	Flanged Main Brg.	1
1 Flanged Main Brg. FP-8929681 .254MM			.254MM	FP-8929681		1
1 Flanged Main Brg. FP-8929682 .508MM			.508MM	FP-8929682		1
1 Flanged Main Brg. <b>FP-8929683</b> .762MM			.762MM	FP-8929683		1
1 Lower End Bearing Kit FP-23535280 Engs. w/machined notches in main bearing caps		Engs. w/machined notches in main bearing caps				1
	in main	Position Front & Rear; Engs. w/o machined notches in m	STD	FP-8929085S		1
bearing caps						
				FP-23530554		2
4 Thrust Washer FP-8929085 STD Position Front & Rear; Engs. w/o machined notches in	in main		STD	FP-8929085	Thrust Washer	4
bearing caps						_
2 Thrust Washer FP-23530555 STD Position Rear; Engs. w/machined notches in main bear	agring ages	Position Rear: Engs w/machined notches in main bearing	STD	FP-23530555	Thrust Washer	2



Multi-Purpose Engines Series 60 Eng. (14.0L) 9
14.0L 858 SOHC Turbo-Diesel L6 (24 Valve), 133mm Bore (cont.)

			14.UL 0	cont.)
	CRANKSHAFT/OIL PUMP (cont.)			
QTY	MAIN BEARINGS (cont.)	PART NO.	SIZE	DESCRIPTION
2	Thrust Washer	FP-8929697	.127MM	Position Upper; .127MM oversize
2	Thrust Washer	FP-8929698	.254MM	Position Upper; .254MM oversize
QTY	OIL PUMP	PART NO.	SIZE	DESCRIPTION
1	Gasket	FP-8929302		Dipstick adapter
	CYLINDER COMPONENTS			
QTY	LINERS	PART NO.	SIZE	DESCRIPTION
6	Liner w/Sealing Rings	FP-23531250	STD	
6	Cylinder Kit Complete	FP-23530661 *	STD	15.0:1 C.R.
6	Cylinder Kit Complete	FP-23530665 *		16.0:1 C.R., Cutback piston design
6	Cylinder Kit Complete	FP-23530663 *	STD	16.0:1 C.R., Oval piston design
6	Cylinder Kit Complete	FP-23533452 *	STD	16.0:1 C.R., 3.0MM Top Ring; Marine applications
6	Sealing Ring, Liner	FP-8929013		Crevice seal
12	Sealing Ring, Liner	FP-8929176		D-ring seal
6	Cntr. Bore Insert	FP-23525500		Upper bore repair bushing to repair block deck
QTY	PISTONS	PART NO.	SIZE	DESCRIPTION
12	Piston Pin Retainer	FP-23521781		Use w/Steel pistons
6	Piston Cooling Nozzle	FP-23528493		Use w/Articulated pistons
6	Bolt	FP-23506222		Cooling nozzle mount; M8 - 1.25" x 20, 12 point
	CONNECTING RODS &			
	BRGS.	PART NO.	SIZE	DESCRIPTION
12	Con. Rod Nut	FP-8929019		M14 x 1.5
6	Rod Pair	FP-23526141	STD	
6	Rod Pair	FP-23533567 *	.254MM	
6	Rod Pair	FP-23533568 *	.508MM	w/Articulated Pistons; Drilled upper & lower
QTY		PART NO.	SIZE	
6	Ring Set Single Cylinder	FP-23533510 *		Use w/15.0:1 C.R. Pistons
6	Ring Set Single Cylinder	FP-23531252 *		Use w/16.0:1 C.R. Pistons
6	Ring Set Single Cylinder	FP-23525573 *		Use w/16.75:1 C.R. Pistons

#### **Engine Kit Bill of Material**

ty.	Part No.	Description	Qty.	Part No.	Description	Qty	. Part No.	Description	Qty	. Part No.	Description
	FP-IFKDT40	36		FP-IFKDT46	64R (cont'd )		FP-IFKS501	TLC		FP-OHS60S	SPREM (cont'd.)
(6)	FP-1817189	Cylinder Kit Complete	(6)	FP-1808059	Connecting Rod Bearing	(1)	FP-23511580	Oil Pan Gasket	(1)	FP-8929102	Oil Pan Gasket
(6)	FP-1817645	Cylinder Kit Complete			Pair	(4)	FP-23532555	Cylinder Kit Complete	- ` '		
(6)	FP-687432	Cylinder Kit Complete	(6)	FP-1808060	Connecting Rod Bearing	(4)	FP-23532556	Cylinder Kit Complete		FP-PK1266	7
(6)	FP-1808059	Connecting Rod Bearing			Pair	(4)	FP-23532557	Cylinder Kit Complete	(1)	FP-8921722S	Premium Piston Ring S
		Pair	(6)	FP-1808061	Connecting Rod Bearing	(4)	FP-23532558	Cylinder Kit Complete	(8)	FP-PK8925818	Piston Kit w/Pin &
(6)	FP-1808060	Connecting Rod Bearing	(6)	FP-1808062	Pair Connecting Rod Bearing	(4)	FP-23515581	Connecting Rod Bearing			Retainers
(6)	FP-1808061	Pair Connecting Rod Bearing	(0)	17-1000002	Pair	(4)	FP-23515582	Pair Connecting Red Regring		FP-PK2266	7
0)	FF-1000001	Pair	(6)	FP-681314	Connecting Rod Bearing	(4)	FP-23515582	Connecting Rod Bearing Pair	/4)		
6)	FP-1808062	Connecting Rod Bearing			Pair	(4)	FP-23515583	Connecting Rod Bearing	(1) (1)	FP-5099M FP-8921722S	Main Bearing Set Premium Piston Ring S
,		Pair	(6)	FP-681315	Connecting Rod Bearing	( ' '		Pair	(8)	FP-09217225 FP-PK8925818	Piston Kit w/Pin &
6)	FP-681314	Connecting Rod Bearing	(0)	ED 601016	Pair	(4)	FP-23515584	Connecting Rod Bearing	(0)	11-110323010	Retainers
٥١	ED 001015	Pair	(6)	FP-681316	Connecting Rod Bearing Pair			Pair	(8)	FP-8921714	Connecting Rod Bearing
6)	FP-681315	Connecting Rod Bearing Pair	(6)	FP-687382	Connecting Rod Bearing	(4)	FP-8929710	Connecting Rod Bearing	. ,		Pair
6)	FP-681316	Connecting Rod Bearing	(0)	11 00/002	Pair	(4)	FP-8929711	Pair Connecting Rod Bearing		<b></b>	
,	11 001010	Pair	(1)	FP-1823843	Main Bearing Set	(4)	11-0323711	Pair		FP-S60	
3)	FP-687382	Connecting Rod Bearing	(1)	FP-1823844	Main Bearing Set	(4)	FP-8929712	Connecting Rod Bearing	(1)	FP-23522279	Oil Pan Gasket
		Pair	(1)	FP-1823845	Main Bearing Set	. ,		Pair	(1)	FP-8929102	Oil Pan Gasket
1)	FP-1823843	Main Bearing Set	. ,	FP-1823846	Main Bearing Set	(4)	FP-8929713	Connecting Rod Bearing	(6)	FP-23519637	Cylinder Kit Complete
1)	FP-1823844	Main Bearing Set	. ,	FP-1823847	Main Bearing Set			Pair	(6)	FP-23532555	Cylinder Kit Complete
1)	FP-1823845	Main Bearing Set	. ,	FP-1823848	Main Bearing Set	(1)	FP-8929680	Main Bearing, Flanged	(6)	FP-23532556	Cylinder Kit Complete
1)	FP-1823846	Main Bearing Set	( )	FP-1823849	Main Bearing Set	(1)	FP-8929681	Main Bearing, Flanged	(6)	FP-23532557	Cylinder Kit Complete
1)	FP-1823847	Main Bearing Set	(1)	FP-1823850	Main Bearing Set	(1)	FP-8929682	Main Bearing, Flanged	(6) (6)	FP-23532590 FP-23532591	Cylinder Kit Complete Cylinder Kit Complete
)	FP-1823848	Main Bearing Set	(1)	PGN466-IF	In-Frame Gasket Set	(1)	FP-8929683	Main Bearing, Flanged	(6)	FP-23532591 FP-23515581	Connecting Rod Beari
)	FP-1823849	Main Bearing Set		FP-IFKDT46	SEAROH	(4)	FP-8929670A	Main Bearing, Plain	(0)	11-20010001	Pair
)	FP-1823850 PGN466-IF	Main Bearing Set In-Frame Gasket Set	(0)			(4)	FP-8929671A FP-8929672A	Main Bearing, Plain	(6)	FP-23515582	Connecting Rod Beari
J	1 G14400-1F	III IAIIE GASKEL SEL	(-)	FP-18103594R FP-1808059	Cylinder Kit Complete	(4) (4)	FP-8929672A FP-8929673A	Main Bearing, Plain Main Bearing, Plain	\ \-'		Pair
	FP-IFKDT4	36OH	(6)	FF-1000039	Connecting Rod Bearing Pair	(2)	FP-8929085	Thrust Washer	(6)	FP-23515583	Connecting Rod Beari
i)	FP-1817189	Cylinder Kit Complete	(6)	FP-1808060	Connecting Rod Bearing	(2)	FP-8929697	Thrust Washer	.		Pair
9) 6)	FP-1817645	Cylinder Kit Complete	(2)		Pair	(2)	FP-8929698	Thrust Washer	(6)	FP-23515584	Connecting Rod Beari Pair
3)	FP-687432	Cylinder Kit Complete	(6)	FP-1808061	Connecting Rod Bearing	(1)	FP-23532330	Head Gasket Set	(6)	FP-8929710	
3)	FP-1808059	Connecting Rod Bearing			Pair	- '			(6)	FP-0929710	Connecting Rod Beari Pair
,		Pair	(6)	FP-1808062	Connecting Rod Bearing		FP-IFKS60S	SPREM	(6)	FP-8929711	Connecting Rod Beari
i)	FP-1808060	Connecting Rod Bearing	(0)	ED 601014	Pair	(1)	FP-23522279	Oil Pan Gasket	(-)		Pair
		Pair	(6)	FP-681314	Connecting Rod Bearing Pair	(1)	FP-8929102	Oil Pan Gasket	(6)	FP-8929712	Connecting Rod Beari
i)	FP-1808061	Connecting Rod Bearing	(6)	FP-681315	Connecting Rod Bearing	(6)	FP-23532554	Cylinder Kit Complete			Pair
	ED 4000000	Pair	(0)	11-001010	Pair	(6)	FP-23532561	Cylinder Kit Complete	(6)	FP-8929713	Connecting Rod Beari
6)	FP-1808062	Connecting Rod Bearing Pair	(6)	FP-681316	Connecting Rod Bearing	(6)	FP-23532883	Cylinder Kit Complete	(4)	ED 0000000	Pair
6)	FP-681314	Connecting Rod Bearing			Pair	(6)	FP-23537594	Cylinder Kit Complete	(1)	FP-8929680	Main Bearing, Flanger
,	11 001014	Pair	(6)	FP-687382	Connecting Rod Bearing	(7)	FP-8929690	Camshaft Bearing	(1)	FP-8929681 FP-8929682	Main Bearing, Flanger Main Bearing, Flanger
i)	FP-681315	Connecting Rod Bearing			Pair	(6)	FP-23526142	Connecting Rod Bearing	(1) (1)	FP-8929683	Main Bearing, Flanger
		Pair	(1)	FP-1823843	Main Bearing Set	(4)	ED 0000000	Pair	(6)	FP-8929670A	Main Bearing, Plain
6)	FP-681316	Connecting Rod Bearing	` '	FP-1823844	Main Bearing Set	(1)	FP-8929680 FP-8929681	Main Bearing, Flanged Main Bearing, Flanged	(6)	FP-8929671A	Main Bearing, Plain
		Pair	. ,	FP-1823845	Main Bearing Set	(1)	FP-8929682	Main Bearing, Flanged	(6)	FP-8929672A	Main Bearing, Plain
6)	FP-687382	Connecting Rod Bearing Pair	٠,	FP-1823846 FP-1823847	Main Bearing Set Main Bearing Set	(1)	FP-8929683	Main Bearing, Flanged	(6)	FP-8929673A	Main Bearing, Plain
1)	FP-1823843	Main Bearing Set		FP-1823848	Main Bearing Set	(6)	FP-8929670A	Main Bearing, Plain	(2)	FP-8929085	Thrust Washer
1)	FP-1823844	Main Bearing Set	(1)	FP-1823849	Main Bearing Set	(6)	FP-8929671A	Main Bearing, Plain	(2)	FP-8929697	Thrust Washer
1)	FP-1823845	Main Bearing Set		FP-1823850	Main Bearing Set	(6)	FP-8929672A	Main Bearing, Plain	(2)	FP-8929698	Thrust Washer
)	FP-1823846	Main Bearing Set	(1)	PGN466C	Complete Overhaul	(6)	FP-8929673A	Main Bearing, Plain	(1)	FP-23532333	Head Gasket Set
)	FP-1823847	Main Bearing Set	(-/		Gasket Set	(2)	FP-8929085	Thrust Washer	-		
)	FP-1823848	Main Bearing Set	-			(2)	FP-8929697	Thrust Washer		FP-S60IFKF	₹R
)	FP-1823849	Main Bearing Set		FP-IFKS50S	PREM	(2)	FP-8929698	Thrust Washer	(1)	FP-8929102	Oil Pan Gasket
)	FP-1823850	Main Bearing Set	(1)	FP-23511580	Oil Pan Gasket	(1)	FP-23532333	Head Gasket Set	(6)	FP-23515581	Connecting Rod Bear
)	PGN466C	Complete Overhaul	(4)	FP-23532554	Cylinder Kit Complete	(38)	FP-23530768	Cylinder Head Bolt	(-)		Pair
		Gasket Set		FP-23532561	Cylinder Kit Complete	(2)	FP-8929878	Thermostat	(6)	FP-23515582	Connecting Rod Beari
	ED IEVOTA	CONCD	(5)	FP-8929690	Camshaft Bearing		ED OLICCOO	PDEM	(6)	FP-23515583	Pair Connecting Rod Beari
	FP-IFKDT4		(4)	FP-23515581	Connecting Rod Bearing		FP-OHS60S		(0)	11-20010000	Pair
)	FP-1822340	Cylinder Kit Complete	(4)	ED 02515500	Pair	(6)	FP-23532554	Cylinder Kit Complete	(6)	FP-23515584	Connecting Rod Beari
)	FP-1824820	Cylinder Kit Complete	(4)	FP-23515582	Connecting Rod Bearing Pair	(6)	FP-23532561	Cylinder Kit Complete	(3)		Pair
)	FP-1824823	Cylinder Kit Complete	(4)	FP-23515583	Connecting Rod Bearing	(6)	FP-23532883	Cylinder Kit Complete	(1)	FP-23532333	Head Gasket Set
i)	FP-1822389	Connecting Rod Bearing Pair	(**)	5510000	Pair	(6)	FP-23537594	Cylinder Kit Complete	(1)	FP-8929680	Main Bearing, Flanger
i)	FP-1822486	Connecting Rod Bearing	(4)	FP-23515584	Connecting Rod Bearing	(6)	FP-23526142	Connecting Rod Bearing Pair	(1)	FP-8929681	Main Bearing, Flanged
,		Pair			Pair	(1)	FP-8929680	Main Bearing, Flanged	(1)	FP-8929682	Main Bearing, Flanger
)	FP-1822487	Connecting Rod Bearing	(4)	FP-23526142	Connecting Rod Bearing	(1)	FP-8929681	Main Bearing, Flanged	(1)	FP-8929683	Main Bearing, Flanger
		Pair		ED 000	Pair	(1)	FP-8929682	Main Bearing, Flanged	(6)	FP-8929670A	Main Bearing, Plain
)	FP-1822379	Main Bearing, Flanged	(1)	FP-8929680	Main Bearing, Flanged	(1)	FP-8929683	Main Bearing, Flanged	(6)	FP-8929671A	Main Bearing, Plain
)	FP-1822494	Main Bearing, Flanged		FP-8929681	Main Bearing, Flanged	(6)	FP-8929670A	Main Bearing, Plain	(6)	FP-8929672A	Main Bearing, Plain
)	FP-1822495	Main Bearing, Flanged	. ,	FP-8929682 ED-8020682	Main Bearing, Flanged	(6)	FP-8929671A	Main Bearing, Plain	(6)	FP-8929673A	Main Bearing, Plain
)	FP-1822496	Main Bearing, Flanged	(1)	FP-8929683 FP-8929670A	Main Bearing, Flanged	(6)	FP-8929672A	Main Bearing, Plain	(2)	FP-23521781 FP-23521802	Piston Pin Retainer Piston Skirt
)	FP-1822321	Main Bearing, Plain		FP-8929670A FP-8929671A	Main Bearing, Plain	(6)	FP-8929673A	Main Bearing, Plain	(6)	FP-23521802 FP-23503747	
)	FP-1822490	Main Bearing, Plain	. ,	FP-8929671A FP-8929672A	Main Bearing, Plain Main Bearing, Plain	(2)	FP-8929085	Thrust Washer	(6)	FP-23503747 FP-23531249	Ring Set, Single Cylin
)	FP-1822491	Main Bearing, Plain	(4) (4)	FP-8929672A FP-8929673A	Main Bearing, Plain Main Bearing, Plain	(2)	FP-8929697	Thrust Washer	(6) (2)	FP-23531249 FP-8929085	Liner w/Sealing Rings Thrust Washer
(6)	FP-1822492	Main Bearing, Plain		FP-8929073A FP-8929085	Thrust Washer	(2)	FP-8929698	Thrust Washer	(2)	11-0323003	imusi Wasiiti
)	PGN466NGD-IF	In-Frame Gasket Set	(2)	FP-8929697	Thrust Washer	(7)	FP-8929690	Camshaft Bearing		FP-S60OH	
)	FP-1816722	Miscellaneous Gasket	(2)	FP-8929698	Thrust Washer	(1)	FP-23532332	Complete Overhaul	(6)	FP-23519637	Cylinder Kit Complete
	FP-IFKDT4	364R	(1)	FP-23532330	Head Gasket Set	(00)	ED 00500=00	Gasket Set	(6)	FP-23532555	Cylinder Kit Complete
2)			(26)	FP-23530768	Cylinder Head Bolt	(38)	FP-23530768	Cylinder Head Bolt	(6)	FP-23532556	Cylinder Kit Complete
3)	FP-18103594R	Cylinder Kit Complete	(-5)		,	(2)	FP-8929878	Thermostat	(6)	FP-23532557	Cylinder Kit Complete
						(1)	FP-23522279	Oil Pan Gasket	(6)	FP-23532590	Cylinder Kit Complete
		(cont'd. next column)	1			1		(cont'd. next column)	1 17		(cont'd. next page)

#### **Engine Kit Bill of Material**

(6) FP-23515581 Connecting Rod Bearing Pair (6) FP-8929670A Main Bearing, Plain (7) FP-8929670A Main Bearing, Plain (8) FP-8923919 Ring Set, Single Cylinder (8) FP-8923919 Ring Set, Single Cylinder (9) FP-8929670A Main Bearing, Plain (8) FP-8923919 Ring Set, Single Cylinder (9) FP-89296717 Piston Pin (8) FP-8929717 Piston Pin (8) FP-8929717 Piston Pin (8) FP-8929717 Piston Pin (8) FP-8929717 Piston Pin (8) FP-8929711 Connecting Rod Bearing Pair (2) FP-8929673A Main Bearing, Plain (8) FP-8929710 Connecting Rod Bearing Pair (2) FP-8929685 Thrust Washer (2) FP-8929697 Thrust Washer (2) FP-8929698 Thrust Washer (2) FP-8929698 Thrust Washer (2) FP-8929698 Thrust Washer (3) FP-8929710 Main Bearing Set (1) FP-5099MSMM Main Bearing Set (1) FP-8924126 Complete Overhaul Gasket Set (8) FP-R8925818 Pis									Engin	e n	IL DIII (	of Material
50	Qty.	Part No.	Description	Qty.	Part No.	Description	Qty	. Part No.	Description	Qty.	. Part No.	Description
F. P-2015106   Cymerter for Gallesing   Cyme		FP-S60OH	cont'd.)		FP-S60TLC	(cont'd.)		FP-82NAOH	(cont'd.)		PK2-2666	
PP-2051586	(6)						(8)			(1)		Premium Piston Ring Set
FP-2810586	(6)	FP-23515581		' '			٠,			(8)	FP-8921714	Connecting Rod Bearing
PR-2005155   PR-2005156   PR-2005171	(6)	FP-23515582		, ,		•				(1)	FP-5099M	Main Bearing Set
P-9287155	(-)		Pair	' '		-				` '		Piston Kit w/Pin &
P-8251916   Commonting Find Search   Commont	(6)	FP-23515583		, ,		•	(0)	ED 0004500				Retainers
PARTITION	(6)	FP-23515584		' '			(8)	FP-8924703			PK2-2667	
PA-802711   PR-200280   PR-2	(0)	ED 0000740		, ,						(1)	FP-8921722S	Premium Piston Ring Set
P-9600711   Commonting find Bearing   P-9600712   Commonting find Bearing   P-9600713   Commonting find Be	(6)	FP-8929/10		(1)	FP-23532333	Head Gasket Set			•	(8)	FP-8921714	Connecting Rod Bearing
69	(6)	FP-8929711			FP-S60TLC	)H				(1)	FP-5099M	Main Bearing Set
P-4029071	(6)	FP-8929712					(4)	ED 000440040		(8)	FP-PK8925818	Piston Kit w/Pin &
P-9482971   Allan Bearing, Flanged Main Be			Pair	٠,			(1)	FP-892412610				Retainers
Connecting Pub Bearing   Face   Fac	(6)	FP-8929713		٠,								
Image: Concessing Rob Bearing Part   Image: Co	(1)	FP-8929680		' '			(2)	FP-8926675	Valve Cover Gasket			
FP-98059671	. ,			(6)	ED 22515502			FP-82T				
6  F. P48255713	. ,			(0)	FF-23313362							
60   Fre-discript				(6)	FP-23515583				•			
P-94025071	. ,			(6)	FP-23515584				•			
20			0,	(0)					•			
City   Pri-8829892			•	(6)	FP-8929710				•			
P-2625322				(6)	FP-8929711				•			
1						Pair						
1) FP-4392102	(1)	FF-23332332		(6)	FP-8929712							
P-982010	. ,			(6)	FP-8929713							
P-P-9351712	(1)	FP-8929102	Oil Pan Gasket	(4)	ED 0000000							
(i) FP-4395162 Connecting Rot Bearing   FP-8395871 Connecting Rot		FP-S60OHR	R	٠,,			(8)	FP-8921714				
P-P-22515583	٠,			(1)	FP-8929682	Main Bearing, Flanged	(8)	FP-8924703				
(B) PP.23515882 Comercing Rod Bearing Pair (B) PP.9255973A (B) PP.9325973A (B) PP.9325973A (B) PP.93259573A (B) PP.93259573A (B) PP.93259573A (B) PP.93259573A (B) PP.93259593 (B) PP.93259593 (B) PP.93259593 (B) PP.93259593 (B) PP.9325935 (B) PP.9325937 (B) PP.9325935 (B) PP.9325936 (B) PP.9325936 (B) PP.9325936 (B) PP.9325936 (B) PP.9325936 (B) PP.9325936 (B) PP.9325937 (B) PP.9	(6)	FP-23515581							Pair			
Figure   F	(6)	FP-23515582	Connecting Rod Bearing	٠,		•			•			
6  FP-2351584   Cornecting Rod Bearing   FP-892686	(6)	ED-22515592		٠,		•			•			
(c) PP-3920681 Man Bearing, Flanged (1) PP-8920681 Man Bearing, Flanged (1) PP-8920681 Man Bearing, Flanged (1) PP-8920682 Man Bearing, Flanged (1) PP-8920682 Man Bearing, Flanged (1) PP-8920682 Man Bearing, Flanged (1) PP-89206871 Main Bearing, Flanged (1) PP-89206871 Main Bearing, Planin (1) PP-89206871 Main Bearing, Planin (1) PP-89206871 Main Bearing, Planin (1) PP-8920871 Main Bearing, Planin (1) PP-8920877 Main Bearing, Planin (1) PP-8920877 Main Bearing, Planin (1) PP-892087 Main Bearing, Planin (1) PP-892088 Man Managering, Planin (1) PP-892088 Managering, Planin (1) PP	(0)	11-20010000		٠,		•						
(2) FP-882980	(6)	FP-23515584		٠,,								
Image: Connecting Robust Page 1   Pr-8629882   Main Bearing, Flainged (1)	(1)	FP-8929680		٠,								
1) FP-8929883	. ,		0, 0	(1)	FP-23532332			ED OOTOU		1		
(i) FP-822971A Main Bearing, Pilain (ii) FP-82971D Oil Pan Gasket (iii) FP-829871A Main Bearing, Pilain (iii) FP-8291605 Piston Body wio Pin (iii) FP-8292171 Piston Pin Retainer (iii) FP-8292234 Piston Body wio Pin (iii) FP-8292318 Piston Body wio Pin (iii) FP-8292234 Piston Body wio Pin (iii) FP-8292237 Piston Pin (iii) FP-8292237 Piston Pin (iii) FP-8292237 Piston Pin (iii) FP-8292377 Piston Pin Retainer (iii) FP-8292377 Piston Pin Retainer (iii) FP-8292377 Piston Pin Pin Retainer (iii) FP-8292377 Piston Pin Pin Retainer (iii) FP-8292377 Piston Pin Pin Retainer (iii) FP-8292377 Ping Set. Single Cylinder (iii) FP-8292379 Ping Set. Single Cylinder (iii) FP-8292371 Ping Set. Single Cylinder (iii) FP-8292371 Ping Set. Single Cylinder (iii) FP-8292371 Ping Set. Single Cyli	. ,			(1)	FP-23522279		(8)		Piston Body w/o Pin			
FP-8928672A	. ,			(1)	FP-8929102	Oil Pan Gasket			•			
FP-9323323			•		FP-82NA							
FP-8323323   Complete Overhaul Gasket Set	. ,		-	. ,					,			
P-23521781	. ,		Complete Overhaul	' '		,		FP-8925820	Piston Body w/o Pin			
F-93231802	(2)	ED_02501701										
(a) FP-32503747 Ring Set, Single Cylinder (b) FP-3251249 Liner w/Sealing Rings (c) FP-8922875 (d) FP-89229805 Thrust Washer (d) FP-8922977 (d) FP-8922977 (e) FP-89241270 (	. ,			(8)	FP-8922452	Piston Body w/o Pin	' '					
P-8929085								FP-892172230				
(1)   55-4038   Prelube   (16)   FP-8923977   Piston Pin Retainer   Ring Set, Single Cylinder   Ring Set, Single				1								
FP-S60TLC				(16)		Piston Pin Retainer						
(1)   FP-23522279		ED COSTI O		, ,								
(8) FP-8929102	(1)		Oil Ban Cooket	٠,			(8)	FP-8921714				
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<b>FP-1824644</b> 2 <b>FP-1824646</b> 2	FP-23512307 5, 7, 8 FP-23513578 5, 7-9	<b>FP-23532436</b> 5, 7, 8 <b>FP-23532468</b> 7, 8
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FP-23532883	8	FP-5176557 FP-5177773	3, 4	FP-8920732	3, 4
FP-23532926* FP-23533250*	9 9	FP-517773 FP-5178273	3, 4 5	FP-8920849 FP-8921033	3, 4 3, 4
FP-23533251*	9	FP-5178581	3, 4	FP-8921253	3, 4
FP-23533252*	9 9	FP-5178700 FP-5180539	3, 4 3, 4	FP-8921294 FP-8921347	3, 4 3, 4
FP-23533254* FP-23533255*	9	FP-5181747	3, 4	FP-8921605	3, 4
FP-23533257*	9	FP-5182977	5	FP-892160530	3
FP-23533258* FP-23533259*	9 9	FP-5183704 FP-5184530	3, 4 3, 4	FP-8921712 FP-8921714	3, 4 3, 4
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FP-23533262*	9	FP-5193602	3, 4	FP-892171430	3, 4
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FP-23533552*	5, 7-9	FP-5199560	3, 4	FP-892172130	3
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FP-4770P*	7, 8	FP-5229840	3. 4	FP-8922200	3, 4
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FP-8929253	5, 7, 8	VK-115B	3, 4		
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FP-8929342	7, 8	7363M+	7, 8		
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FP-8929427 FP-8929479	5, 7, 8 5, 7, 8				
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FP-8929504	5, 7, 8				
FP-8929510	7, 8				
FP-8929512	5, 7, 8				
FP-8929529	5, 7, 8				



#### **Decimal Equivalents**

					I
8THS.	16THS.	32NDS.	64THS.	DECIMALS	mm
			1/64	.015625	.396875
		1/32		.031250	.793750
			3/64	.046875	1.190625
	1/16			.062500	1.587500
			5/64	.078125	1.984375
		3/32		.093750	2.381250
			7/64	.109375	2.778125
1/8				.125000	3.175000
1,0			9/64	.140625	3.571875
		5/32	3,01	.156250	3.968750
		3/32	11/64	.171875	4.365625
	2/16		11/04	.187500	4.762500
	3/10		13/64	.203125	5.159375
		7/22	10/04	.218750	5.556250
		1/32	15/64		
1/4				.234375	5.953125
1/4				.250000	6.350000
		0.100	17/64	.265625	6.746875
		9/32	10/04	.281250	7.143750
			19/64	.296875	7.540625
	5/16			.312500	7.937500
			21/64	.328125	8.334375
		11/32		.343750	8.731250
			23/64	.359375	9.128125
3/8				.375000	9.525000
			25/64	.390625	9.921875
		13/32		.406250	10.318750
			27/64	.421875	10.715625
	7/16			.437500	11.112500
	.,		29/64	.453125	11.509375
		15/32	20,0	.468750	11.906250
		10,02	31/64	.484375	12.303125
1/2			01/01	.500000	12.700000
1/2			33/64	.515625	13.096875
		17/22	33/04	.531250	13.493750
		11/32	35/64	.546875	13.890625
	0/40		30/04		
	9/10			.562500	14.287500
		10/00	37/64	.578125	14.684375
		19/32	00/04	.593750	15.081250
F 10			39/64	.609375	15.478125
5/8				.625000	15.875000
			41/64	.640625	16.271875
		21/32		.656250	16.668750
			43/64	.671875	17.065625
	11/16			.687500	17.462500
			45/64	.703125	17.859375
		23/32		.718750	18.256250
			47/64	.734375	18.653125
3/4				.750000	19.050000
			49/64	.765625	19.446875
		25/32		.781250	19.843750
			51/64	.796875	20.240625
	13/16			.812500	20.637500
	.5, 10		53/64	.828125	21.034375
		27/32		.843750	21.431250
		L110L	55/64	.859375	21.828125
7/2			33/04	.875000	22.225000
1/0			57/64	.890625	22.223000
		20/22			
		29/32	E0/64	.906250	23.018750
	15/10		59/64	.921875	23.415625
	15/16			.937500	23.812500
			61/64	.953125	24.209375
		31/32		.968750	24.606250
			63/64	.984375	25.003125
1				1.000000	25.003125
			1	l .	l

# Inches to Millimeters

.001	0.0254mm
	0.0508mm
	0.0762mm
	0.1016mm
.005	0.1270mm
.006	0.1524mm
.007	0.1778mm
.008	0.2032mm
.009	0.2286mm
.010	0.2540mm
.020	0.5080mm
.030	0.7620mm
.040	1.0160mm
.050	1.2700mm
.060	1.5240mm
.070	1.7780mm
	2.0320mm
	2.2860mm
	2.5400mm
. 100	2.0 100111111

# Millimeters to Inches

0.025mm	.000984 .001968 .002952 .003937 .004921 .005905 .006889 .007874 .008858 .009842 .019685 .029527 .039370 .049212 .059055 .068897 .078740 .088582 .098425

# Conversion Formulae

28.349 gm./oz. 453.592 gm./lb.
16.387 cc/in.³ 61.024 in.³/L
3.785 L/U.S. gal. 4.546 L/Imp. gal. 0.264 U.S. gal./L 0.220 Imp. gal./L

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(a) FEDERAL

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#### **Series 60 Cross Head Piston**

- Improved material properties
- Reduced stress concentration at key points
- Optimized radius of struts
- Increased standup height



# FP Diesel ML<sup>7</sup> Head Gaskets

- Patented multi-layer design provides unprecedented strength
- Expanded graphite outer facings fills in minor voids in sealing surfaces
- Stainless steel armors provide robust, long lasting combustion seal
- Solid steel core provides enhanced lateral stability



#### Valvetrain Components

- Manufactured to the highest quality standards
- OEM specification materials used with upgrades to super alloys such as stellite, nickel, nimonic and inconel where needed for problem applications
- Available parts include valves, springs, guides, keepers, rotocaps, rocker parts, lifters, seals, seats and more



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